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CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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Front Cover: *Harpa costata* (Linnaeus, 1758), photographed in the waters off Mauritius in 2012 by Charles Rawlings. To our knowledge, this is the first *in situ* image of this species, much less two of them!

Back Cover: *Euvola laurentii* (Gmelin, 1791), photographed by Edie Kehoe of Sugarloaf Key, Florida. These colorful left hand valves (often thought of as top valves as that is their typical orientation when found alive on the sand) were arranged by Frank Frumar. He obtained them from shrimp fishermen in the Florida Keys (fisherd NE of the Tortugas) who had eaten the insides and often busted one or both valves in the process.

Editor's notes:

This has been an interesting issue. I started with the two cover illustrations (normally the last part of the magazine worked on) and then started scrambling for material to go in between. I believe the two covers make this issue really stand out. The photograph by Charles Rawlings of *Harpa costata* is certainly a major coup. Two specimens of this rare species caught *in situ*, definitely a first. After setting aside a couple future cover images I decided more of the Rawling's Mauritius images should be shared - pages 34 and 35. Then Frank Frumar had his composition of *Euvola raveneli*, photographed by Edie Kehoe. A great presentation of this handsome shell.

Next we have another report by Emilio F. García about his further adventures dredging in the Caribbean. This ongoing series has been quite interesting to follow over the past few years. Peggy Williams gives us an invitation to the COA convention in Sarasota, Florida. I well remember the 2004 convention at this same hotel, great rooms and hotel facilities, but most memorable for the lunch on the patio - a grouper sandwich that will long be remembered. After Peggy we have long-time contributor, Joaquin M. Inchaustegui, with his tale of a pearl found and lost. Jeremy Tiemann relates the progress of his research on the effects of lowhead dams on freshwater gastropods, research partially funded by a COA grant.

Edward Nieburger and Adam Baldinger tell us about Domenick Nicolaci and his shell collection, now housed in the Museum of Comparative Zoology, Harvard University. For readers with Internet access (and maybe acumen), try looking for the Nicolaci house on the "island" (now a peninsula) off West Island, Buzzard's Bay, in Fairhaven, Massachusetts. Google Maps shows a great view of this estate.

We then have three book reviews. Rusti Stover reviews a kid's book, "Alphie Finds The Seashell Alphabet," and I review "The Cone Shells of Florida" and "The Family Babyloniidae." All three are available now by direct mail or online and I am sure they will be available at the convention in Sarasota.

We close with a great story about Tom Rice's *Of Sea and Shore* enterprises: the museum in Port Gamble, the shell magazine, and now the online blog and web site.

Finally, a couple of corrections to the last issue. Lyle Campbell wrote to identify mystery person #32 in the convention photograph as Sarah Campbell. Dave Pugh wrote to correct the caption on page 23 for fig. 4b. Dave states the photo is of the Shell Show judges Len Hill (left) and Dave Pugh (right) presenting the Du Pont Trophy to Stanley & Bobbi Phillips of Miami, FL. He further states the photo had to have been taken at the Greater Miami Shell Show in 1983 or 1984.

Tom Eichhorst

Report on a dredging expedition off the Louisiana coast, including geographical extensions and new record sizes II

Emilio F. García

Readers of *American Conchologist* may remember the report on a dredging expedition in August 2012, off the Louisiana coast, when the two benthic skimmers brought specially for mud-bottom dredging were lost, and when the trip was shortened because of the threats of hurricane Isaac in the northern Gulf of Mexico (García, 2012b). This is a report on a three-day campaign to make up for the “unused” days in August. Our main purpose was to inspect the areas we would have covered had we not lost the dredges.

We did not waste any time, promptly departing for our easternmost and deepest station at 12:01 a.m. on November 17 and not getting to our first station until after 4 p.m. As has been mentioned before, when the benthic skimmer is dropped in deep water it takes about one hour for it to reach the bottom; we then dredge for an hour before bringing it back up. It was some 20 hours from departure time before we got to see the first haul.

The dredge reached the bottom at **Station 1** (see map) at 27°34.52’N, 89°19.39’W, in 1750 m of water and was brought up an hour later at 27°31.028N, 89°26.986’W, in 1816 m. As is the case with all of these deep-water stations, the bottom is composed of very soft mud, at times becoming lumpy, hard, gray clay - conditions for which the Benthic Skimmer was specially designed.

At this first station the dredge brought up several live specimens of *Tindaria amabilis* (Dall, 1889) and numerous live, young *Propeamussium dalli* (E. A. Smith, 1886). Also collected were several empty specimens of the elegant *Graptacme perlonga* (Dall, 1881). This species had been reported before from the Gulf of Mexico from a single specimen (García, 2011a). Among the gastropods up came a few empty specimens of *Leucosyrinx verrilli* (Dall, 1881), *L. tenoceras* (Dall, 1889), *Drilliola pruina* (Watson, 1881) **(fig. 1)**, and *Spirotropis centimata* (Dall, 1881) **(fig. 2).** Station 1 is the westernmost record for both of these species. Moreover, the specimen of *Drilliola pruina* figured here is the largest on record at 28.3 mm. These, and all geographical extensions and maximum record sizes listed below, are taken from Rosenberg, 2009.

Station 2 (see map) was only 27.5 nautical miles from Station 1. The dredge hit bottom at 27°34.153’N, 89°50.224’W, in 1125 m, and was brought up at 27°31.028N, 89°26.986’W, in 1148 m. This haul was composed mainly of a number of live *Leucosyrinx tenoceras* and *Propeamussium dalli* (most of them damaged because of their fragility), and one empty specimen each of *Gymnobela agassizii* (Verrill & Smith, 1880) and *Janthina pallida* (Thompson, 1840). Also dredged was one live *Oocorys sulcata* Fischer, 1883 **(fig. 3),** a westernmost record for that species.

Station 3 (see map) was 62.2 nautical miles away. The dredge was set down at 27°53.746’N, 91°06.535’W in 346 m, and brought up at 27°50.727’N, 91°09.042W in 360 m. Only one live mollusk was collected, that of a *Leucosyrinx* (?) species **(fig. 4)** that may be undescribed. Several empty specimens of the handsome *Calliodentalium callipeplum* (Dall, 1889) and the rare *Scaphella robusta* (Dall, 1889) were also collected. I was very excited about the *Scaphella* because I had not personally collected this species before. This population, all juveniles, shows an interesting elongate form, even when compared with juveniles of approximately the same size of the “*marionae*” form of *S. robusta* from west Florida. Nevertheless, a *robusta* is a *robusta* is a *robusta*, and all other characters of this population agree with its original description.

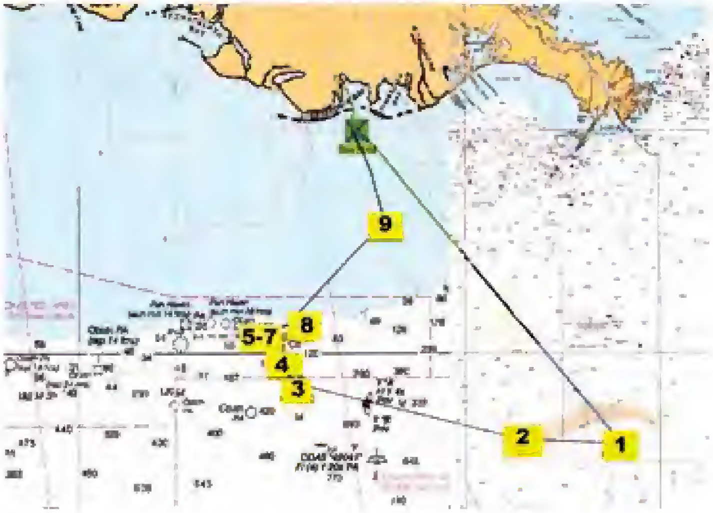
Station 4 (see map) was a treasure trove. We started dredging at 27°55.879’N, 91°12.839’W, in 203 m, and finished at 27°56.235’N, 91°08.156’W, in 204 m. The empty shells collected, consisting of one or two specimens per species, included *Calliodentalium callipeplum*, *Cuspidaria microrhina* Dall, 1886; *Diodora fluviana* Dall, 1889; *Calliostoma orion* Clench & Aguayo, 1960; *Epitonium krebsii* (Mörch, 1874); *Eudolium crosseanum* (Monterosato, 1869); *Pteropurpura bequaerti* (Clench & Aguayo, 1945); *Paziella nuttingi* (Dall, 1896); *Antillophos virginiae* (Schwengel, 1942); *Metula agassizii* Clench & Aguayo, 1941; *Scaphella dubia* f. *kieneri*, Clench, 1846; *S. robusta* (Dall, 1889); a relatively large *Conus cancellatus* Hwass, 1792 (64.8 mm); and a *Polystira* sp. One of the two specimens of *Metula agassizii* **(fig. 5)** measures 39.6 mm, 2.3 mm over the maximum reported size; and the single specimen of *Diodora fluviana* **(fig. 6)** is, at 17.8 mm, 5.8 mm larger than the previously reported maximum size. Also, the *Eudolium crosseanum* **(fig. 7)** is a record for its westernmost distribution, and *Paziella nuttingi* **(fig. 8)** had never been recorded from Louisiana. The single specimen of *Scaphella robusta* **(fig. 9)** shares the same elongated shape with the *S. robusta* population from the previous station.

Collected alive at Station 4 were the bivalves *Limopsis cristata* Jeffreys, 1876; *Microcardium peramabile* (Dall, 1881); *Aequipecten glyptus* (Verrill, 1882); and *Macoma extenuata* Dall, 1900. Also alive were three specimens of *Siratus beauii* (Fischer & Bernardi, 1857) and several specimens each of *Conus villepinii* Fischer & Bernardi, 1857 **(fig. 10)** and *Conus mazei* f. *mcgintyi* Pilsbry, 1955 **(fig. 11).** The specimen of *Siratus beauii* figured in the plate **(fig. 12)** measures 123.6 mm. Rosenberg reports a maximum size of 121 mm but there may be larger specimens in private collections.

As **Stations 5, 6 and 7** (see map) were scheduled for Ewing Bank, we changed from the benthic skimmer dredge to the box dredge, as we would be working on hard bottom. The dredging was done between 28°05.871’N, 91°02.054’W and 28°05.278’N, 91°02.467’W, in 54-79 m. As was the case in the August 2012 expedition, several live *Turbo castanea* Gmelin, 1791; *Erosaria acicularis* (Gmelin, 1791); and *Acrosterigma magnum* (Linnaeus, 1758) were dredged. Also collected were a few dead specimens of *Globivenus listeroides* (Fischer-Piette & Testud, 1967); *Turbo cailletii* Fischer & Bernardi, 1856; *Cheilea equestris* (Linnaeus, 1758); and *Pusula maltbiana* (Schwengel & McGinty, 1942). What saved the day for me was dredging an empty specimen of *Vexillum articulatum* (Reeve, 1845) (see García, 2011b) and, more importantly, a live specimen of *Ranularia rehderi* (A. H. Verrill, 1950). A single live specimen of this species was collected off Louisiana by Charlotte Thorpe in August 2008 during an expedition on the R/V Pelican sponsored by Mr. Bill Cargile (García, 2008). This latest record is only the second for the northern Gulf of Mexico.

Station 8 (28°08.534’N, 90°53.517’W to 28°09.585’N, 90°50.186’W, in 100 m) was very near Ewing Bank (see map), but it may as well have been a hundred miles away, the faunas of the two stations are so very different: hard, calcareous bottom in Ewing and soft muddy bottom at the new station. We changed back from the box dredge to the benthic skimmer.

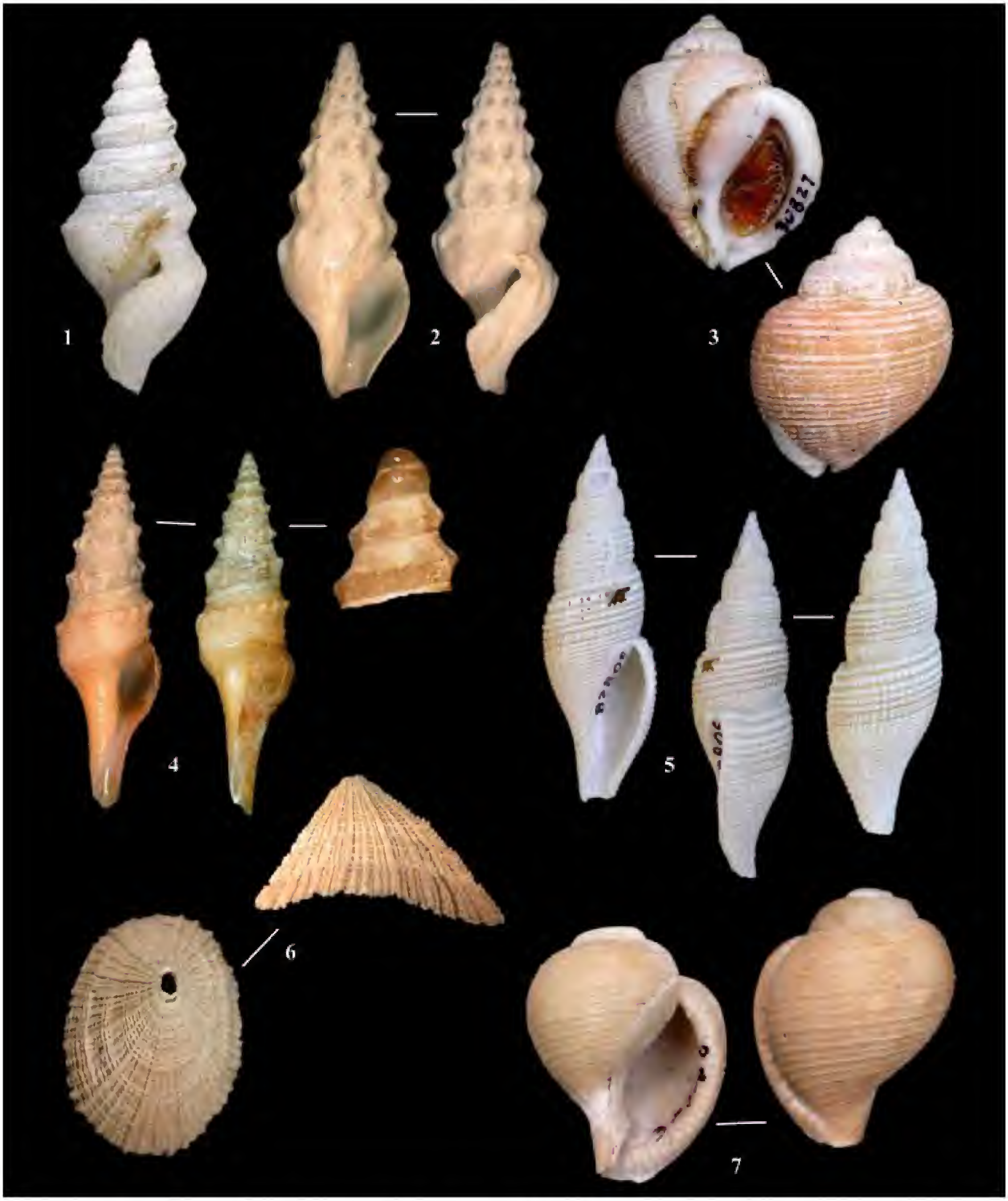
After an hour of dredging the skimmer brought up empty shells of *Scaphella dubia* f. *kieneri*, *Antillophos virginiae*, *Conus mcgintyi*, *Mitra antillensis* Dall, 1889 (large but “very” dead), and *Epitonium krebsii*. You may remember that I had earlier reported a gargantuan specimen of *E. krebsii* (García, 2011a) measuring 27.7 mm. This one measures 29 mm! The smaller specimen had been collected in December 2010, at approximately 28°06.383’N, 90°55.435’W, in rubble, in 76 m; that is, in a bank very near Station 8. As both specimens were collected in excellent condition but empty, the question is does this population of large *E. krebsii* live in rubble or in mud? My guess is that its habitat is rubble with sediment or shell hash, the kind of bottom that occurs in the lower parts of some banks. This station also produced live *Anadara baughmani* Hertlein, 1951; *Macoma tenta* (Say, 1881); *Sconsia grayi* A. Adams, 1855; *Conus armiger* Crosse, 1858; *Clathrodrillia* sp.; *Polystira florencae* Bartsch, 1934; and *P. tellea* (Dall, 1889).



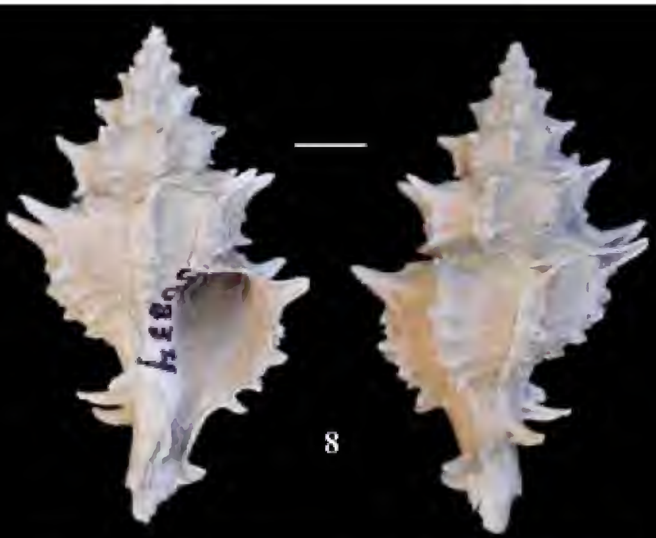
Map showing the Louisiana coast off the Mississippi river delta and dredging stations: 1. 27°34.52’N, 89°19.39’W to 27°31.028N, 89°26.986’W, in 1750 to 1816 m. 2. 27°34.153’N, 89°50.224’W to 27°31.028N, 89°26.986’W, in 1125 to 1148 m. 3. 27°53.746’N, 91°06.535’W to 27°50.727’N, 91°09.042W, in 346 to 360 m. 4. 27°55.879’N, 91°12.839’W to 27°56.235’N, 91°08.156’W, in 203 to 204 m. 5.-7. 28°05.871’N, 91°02.054’W to 28°05.278’N, 91°02.467’W, in 54 to 79 m. 8. 28°08.534’N, 90°53.517’W to 28°09.585’N, 90°50.186’W, in 100 m 9. 28°36. 534’N, 90°23.544’W to 28°38.727’N, 90°22.468’W, in 23 to 34 m.

Sailing 36.2 nautical miles to the northeast we reached **Station 9** (28°36.534’N, 90°23.544’W to 28°38.727’N, 90°22.468’W), our shallowest station at between 23 to 34 m with a mud bottom (see map). There were no expectations of new discoveries here, and no new discoveries were made, but a good amount of live material was collected: *Noetia ponderosa* (Say, 1822); *Microcardium peramabile*; *Argopecten gibbus* (Linnaeus, 1758); *Lirophora clenchi* (Pulley, 1952); *Distorsio clathrata* (Lamarck, 1816); *Solenosteira cancellaria* (Conrad, 1846); *Terebra taurina* Lightfoot, 1786; and a juvenile *Hexaplex fulvescens* (Sowerby II, 1834). These juveniles look so different from the “grown-ups” that when first seen by Clench and Pérez-Farfante they thought they were dealing with a new species and named it *Murex (Poirieria) burryae*.

I did not detect oil from the Macondo Spill (28°44.12N, 88°23.13W) in any of the sites sampled. Station 1 (1750-1816 m) and station 2 (1125-1148 m) produced live material consistent with those depths, as did stations 4 (203-204 m), 8 (100 m) and 9 (23-34 m). Station 3 (346-360 m) was inexplicably poor, producing a single live specimen in one hour of dredging and the crustacean population was equally poor. Perhaps this area happens to be one of those



1. *Drilliola pruina* (Watson, 1881) 28.3 mm (EFG 30871) 2. *Spirotropis centimata* (Dall, 1881) 23.7 mm (EFG 30893) 3. *Oocorys sulcata* Fischer, 1883, 32.0 mm (EFG 30827) 4. *Leucosyrinx* (?) sp., 20.8 mm (EFG 30872) 5. *Metula agassizii* Clench & Aguayo, 1941, 39.6 mm (EFG 30828) 6. *Diodora fluviana* (Dall, 1889) 17.8 mm (EFG 30840) 7. *Eudolium crosseanum* (Monterosato, 1869), 26.8 mm (EFG 30846).



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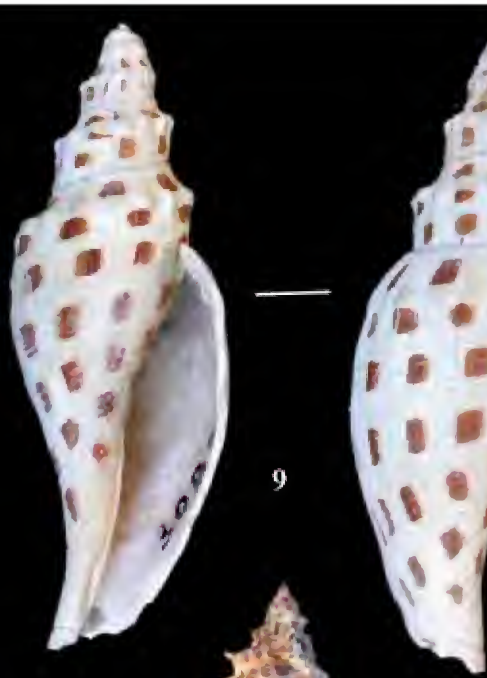

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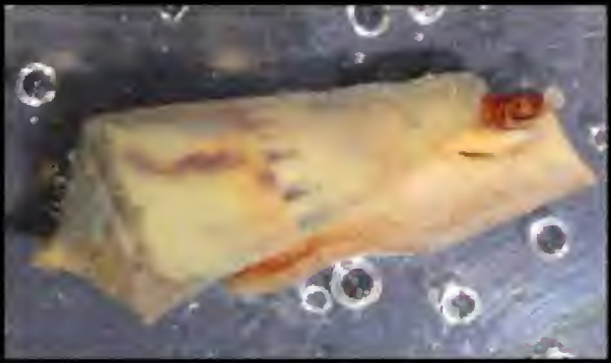

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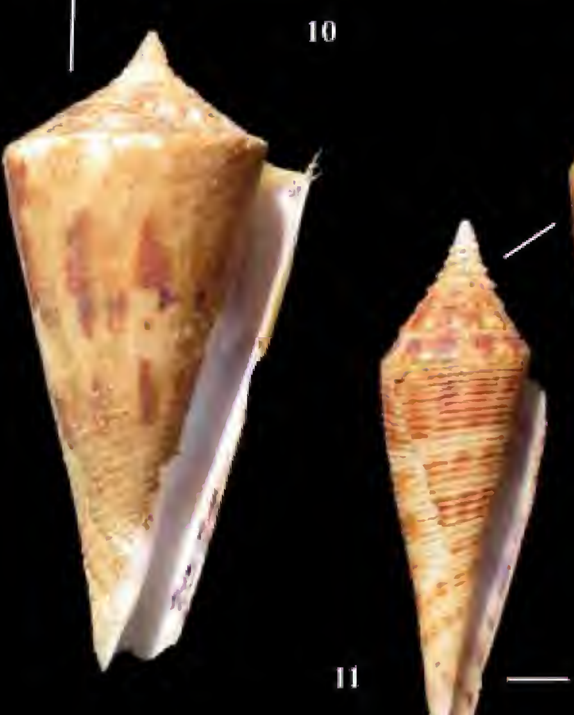

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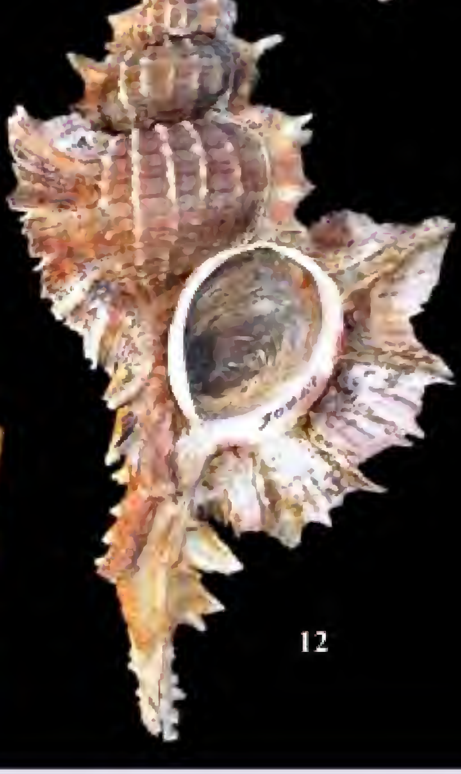

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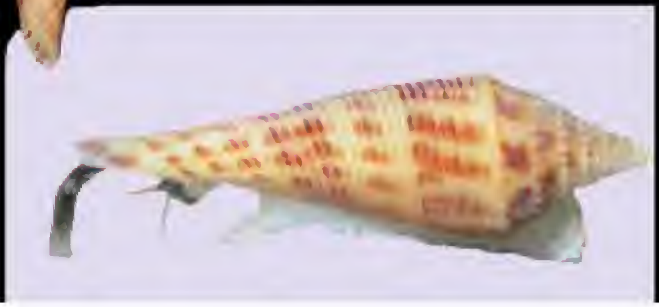

8. ***Paziella nuttingi* (Dall, 1896) 35.5 mm (EFG 30834) 9. *Scaphella robusta* (Dall, 1889), 45.9 mm (EFG 30830) 10. *Conus villepinii* Fischer & Bernardi, 1857, 47.0 mm (EFG 30880) 11. *Conus mazei* f. *mcgintyi* Pilsbry, 1955, 36.2 mm 12. *Siratus beauii* (Fischer & Bernardi, 1857), 123.6 mm (EFG 30829).**

restricted benthic "dead zones" that occur naturally? And then there is Ewing Bank (54-79 m) that so far does not show signs of recuperation.

This expedition is labeled Gulf of Mexico Research Initiative III (part II) and is part of a study project to assess the impact of the Deepwater Horizon oil spill in the surrounding marine biota. A preliminary assessment on the mollusks was reported in *American Conchologist* (García, 2012a). The expedition was sponsored by British Petroleum, and its Primary Investigator is Dr. Nancy Rabalais, Executive Director and Professor at Louisiana Universities Marine Consortium, Chauvin, Louisiana. My thanks to Drs. Darryl Felder and Suzanne Fredericq for inviting me to participate in this campaign. A complete list and many images of mollusks found in offshore Louisiana waters can be found at http://www.jaxshells.org/efg1030.htm. I thank Bill Frank, the webmaster of JAXSHELLS, for his excellent work.

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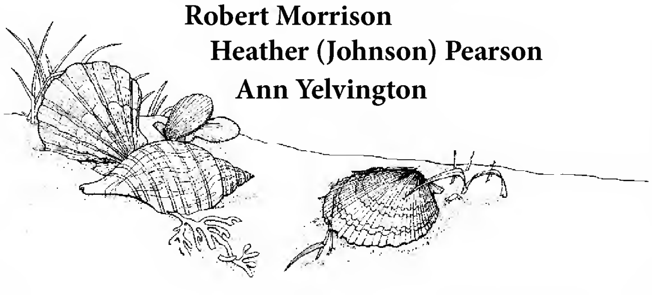


COA Convention 2013

This year's COA Convention will be held in Sarasota, Florida, at the same venue as the very satisfying 2004 convention, the Hyatt Sarasota. Rates for the Hyatt rooms are $109 single or double, with a few suites also available. Alternative housing is abundant in Sarasota, though we urge you to stay at the Hyatt for better comaraderie, closeness to events, and the fact that the Hyatt is counting on us to provide them a profit, in exchange for free use of the meeting rooms.

We have a great convention planned for you, with several field trips: fossil, scuba, snorkeling, and wading trips, plus a couple of great museums visits.

Here's the tentative timetable:

COA 2013 July 14-21
Sun 14- 8am-2pm field trip: fossil **SMR Aggregates**, Roger Portell leading, (limit 40)

Mon 15 - 9am field trip: **scuba** (limit 12)
- 2pm-4:30pm field trip: **Ringling Museum of Art** (limit 22); John Ringling's home and the Circus Museum (requires additional admission)

Tues 16 - 10am-3pm+ field trip: boat **snorkeling** (limit 12)
- 1pm-5pm field trip: **South Florida Museum**, home to Bill Clendenin's shells
- 1pm registration: **cheap shells** (25¢ and up)
- 2pm **COA Board** meeting
- evening welcome party 6pm-9pm

Wed 17 - 8am-10am registration: club tables setup 8am-9am, open 9am-10am
- 8:30am silent auction, **cheap shells** in lobby until 10am
- 10am **opening ceremonies & entertainment** followed by talks (ends @4:30pm) with break for lunch, silent auction continues until 15 min after talks are over
- evening **auction** (preview 6:30pm, auction 7pm)

Thur 18 - 7am COA rep meeting 7am-8:45am (continental breakfast)
- 8am-9am club sales in lobby
- 8:00 silent auction begins
- 9am-4pm presentations with break for lunch
- silent auction ends 15 min after talks end
- 6pm cocktails in lobby, **banquet** 6:30pm

Fri 19 - 8am silent auction begins
- 9am-2:30pm presentations and annual meeting
- 3pm silent auction ends
- 4pm-8pm **wading field trip** (limit 40), box lunches included
- 9pm turtle excavation?*

Sat 20 - 8am-12am craft sessions: make a flower arrangement!
- am free shuttle to St Armand's, Lido Beach, downtown (you make arrangements)
- am bourse setup
- 1pm-9pm **Bourse**

Sun 21 - 9am-4pm **Bourse**
- 8am-11pm fossil field trip

*Official turtle nest excavations may occur during the convention and if possible we will take people to watch. The eggs are carefully kept for incubation and the hatching turtles are escorted to the sea. If a public turtle excavation occurs during July 17-20, we will arrange a car caravan.

The **Ringling Museum of Art** is Florida's Official Art Museum. It has mostly Old Masters, including four huge "cartoons" (full sized tapestry designs) by Rubens.

The **South Florida Museum** houses the Bill Clendenin shell collection and has a great display of local fossils, the oldest Manatee in captivity (over 50 years old), and a Planetarium. Buses will take participants to both locations.

Many other attractions are found in Sarasota, and the hotel provides a free shuttle to St Armand's Key (shopping), Lido Beach, and downtown Sarasota (also walkable). The **GeeWiz Kid's Science Museum** (fun for grownups too) is across the street from the Hyatt, as is the **Garden Club**'s lovely garden. With transportation, you can visit: the **Sarasota Jungle Gardens** (alligators, tropical birds, bird acts, and more), **Selby Botanical Gardens** (specializing in orchids and bromeliads), **Mote Marine Aquarium**, where you can touch live shells and watch manatees, sharks, turtles, and giant grouper.

There are several live theaters and an opera and ballet. With field trips and all the things to do, you might want to stay a few extra days in Sarasota! Downtown Sarasota is within easy walking distance, with myriad restaurants (with varied cuisines available) and lots of antique shops on Main St and Fruitville Rd. There are two groceries you can walk to: on 1st St is Whole Foods Market, and to the south a few blocks is a Publix Supermarket. You can take a **free** shuttle from the hotel to **St Armand's Key shopping, Lido Beach,** and **downtown Sarasota's shopping and restaurants.**

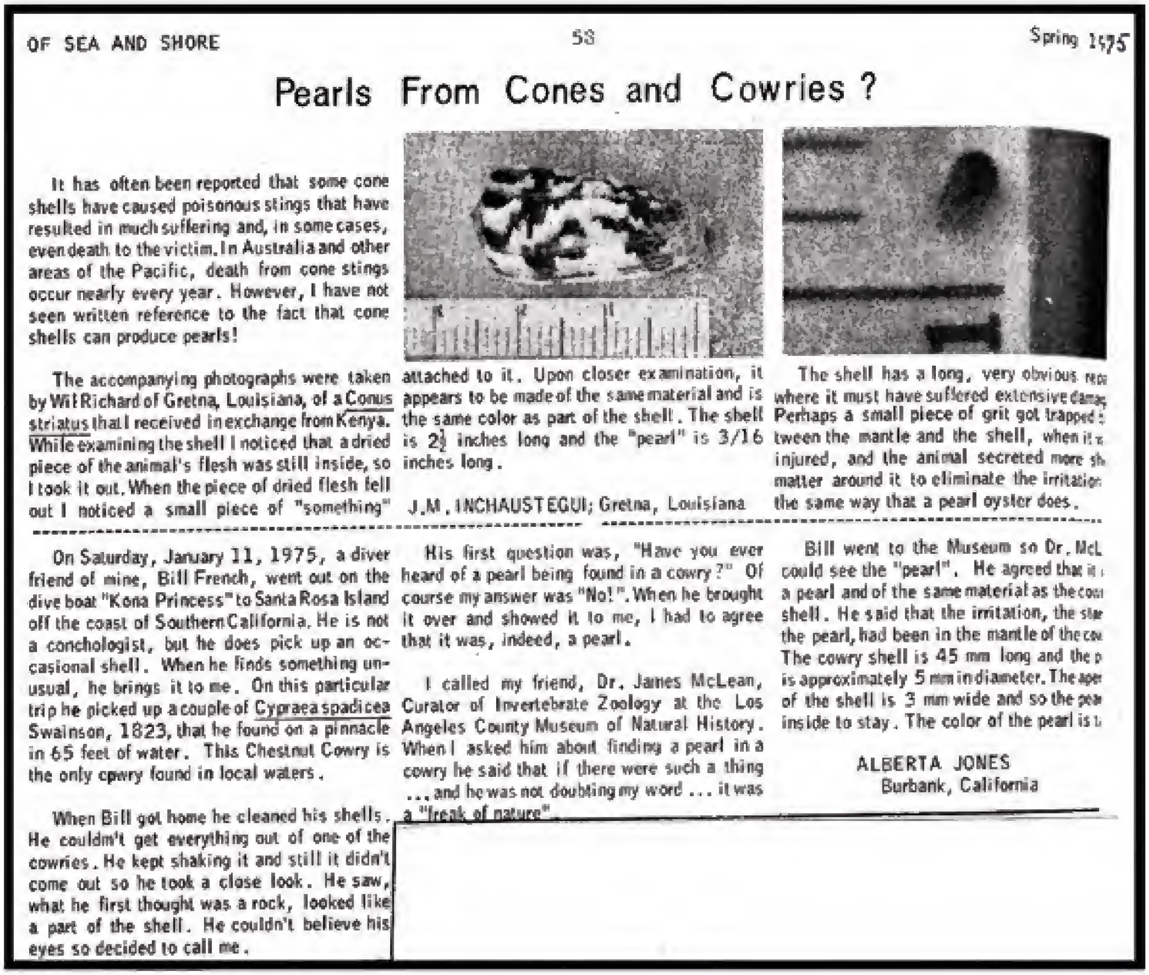
so...**Come to Sarasota in July!**

For more information, email Peggy@Shelltrips.com

Vindication after 37 or more years

Joaquin M. Inchaustegui

As you can see to the right, I submitted a short note to the magazine *of Sea and Shore* published in the Spring 1975, issue. I discovered a small tear-shaped pearl from a *Conus striatus* that I had exchanged with an American shell collector, temporarily living in Kenya, East Africa. When I received this shell there was a distinct aroma that all shell collectors recognize and I could see part of the mollusk's flesh in the aperture. Before adding this to my collection I decided to clean the shell by soaking in fresh water and exchanging the water about every six hours or so to avoid developing Bynes Disease which would ruin the shell.



OF SEA AND SHORE 58 Spring 1975

Pearls From Cones and Cowries ?

It has often been reported that some cone shells have caused poisonous stings that have resulted in much suffering and, in some cases, even death to the victim. In Australia and other areas of the Pacific, death from cone stings occur nearly every year. However, I have not seen written reference to the fact that cone shells can produce pearls!

The accompanying photographs were taken by Wil Richard of Gretna, Louisiana, of a Conus striatus that I received in exchange from Kenya. While examining the shell I noticed that a dried piece of the animal's flesh was still inside, so I took it out. When the piece of dried flesh fell out I noticed a small piece of "something" attached to it. Upon closer examination, it appears to be made of the same material and is the same color as part of the shell. The shell is 2½ inches long and the "pearl" is 3/16 inches long.

J.M. INCHAUSTEGUI; Gretna, Louisiana

The shell has a long, very obvious where it must have suffered extensive Perhaps a small piece of grit got trapped tween the mantle and the shell, when it injured, and the animal secreted more matter around it to eliminate the irritatio the same way that a pearl oyster does.

On Saturday, January 11, 1975, a diver friend of mine, Bill French, went out on the dive boat "Kona Princess" to Santa Rosa Island off the coast of Southern California. He is not a conchologist, but he does pick up an occasional shell. When he finds something unusual, he brings it to me. On this particular trip he picked up a couple of Cypraea spadicea Swainson, 1823, that he found on a pinnacle in 65 feet of water. This Chestnut Cowry is the only cowry found in local waters.

When Bill got home he cleaned his shells. He couldn't get everything out of one of the cowries. He kept shaking it and still it didn't come out so he took a close look. He saw, what he first thought was a rock, looked like a part of the shell. He couldn't believe his eyes so decided to call me.

His first question was, "Have you ever heard of a pearl being found in a cowry?" Of course my answer was "No!". When he brought it over and showed it to me, I had to agree that it was, indeed, a pearl.

I called my friend, Dr. James McLean, Curator of Invertebrate Zoology at the Los Angeles County Museum of Natural History. When I asked him about finding a pearl in a cowry he said that if there were such a thing ..., and he was not doubting my word ... it was a "freak of nature".

Bill went to the Museum so Dr. McL could see the "pearl". He agreed that it a pearl and of the same material as the cow shell. He said that the irritation, the the pearl, had been in the mantle of the co The cowry shell is 45 mm long and the is approximately 5 mm in diameter. The ape of the shell is 3 mm wide and so the pea inside to stay. The color of the pearl is

ALBERTA JONES
Burbank, California

While on one of the water changes I noticed a piece of flesh had fallen out of the shell taking with it the operculum and a strange "something" shaped like a tear or a grape seed. It had the same colors as the striatus and when I rolled it between my thumb and finger I noticed it was hard and smooth. Not knowing what to think of this, I showed it to Dr. R. Tucker Abbott on one of our Caribbean trips in the 70's and after he examined it under low magnification, he concluded that the shell had been damaged and while repairing this damage the animal trapped a piece of the shell and started to form a "pearl" by secreting new material around it.

Unfortunately, I was not experienced enough to recognize the rarity or importance of this so I did not pay much attention to it other than sending a short article to *Of Sea and Shore*, bringing it to the Louisiana Malacological Society monthly shell meeting for a "Show and Tell," and showing it off to my shell collecting friends who were dubious as to the authenticity of this "pearl" and would take it as poppycock or a tall tale when I would show it off. When in the same magazine issue there was mention of a "pearl" found inside a cowry shell, I concluded that this was not such a rare occurrence and put my "pearl" in a little poly-bag with the *C. striatus* in my cone cabinets. Little did I know that Hurricane Katrina would come along and reclaim this back to the Gulf of Mexico in 2005.

And so it went till Dr. Alan J. Kohn of the University of Washington and *Conus* expert co-author of *Manual of the Living Conidae Volume 1: Indo-Pacific Region*, discovered a second pearl in a *Conus* (*C. cedonulli*) that Robert Masino recently found off Union Island in the Grenadines, which confirmed that I had really found a "pearl" in a *Conus* way back when, a nice vindication after 37 years. All this will be summarized in the upcoming manual in the revisionary systematics of the west coast *Conus* being prepared by Dr. A. J. Kohn and will make great reading even for those with only a slight interest in *Conus.*

Effects of lowhead dams on aquatic gastropods

Jeremy S. Tiemann

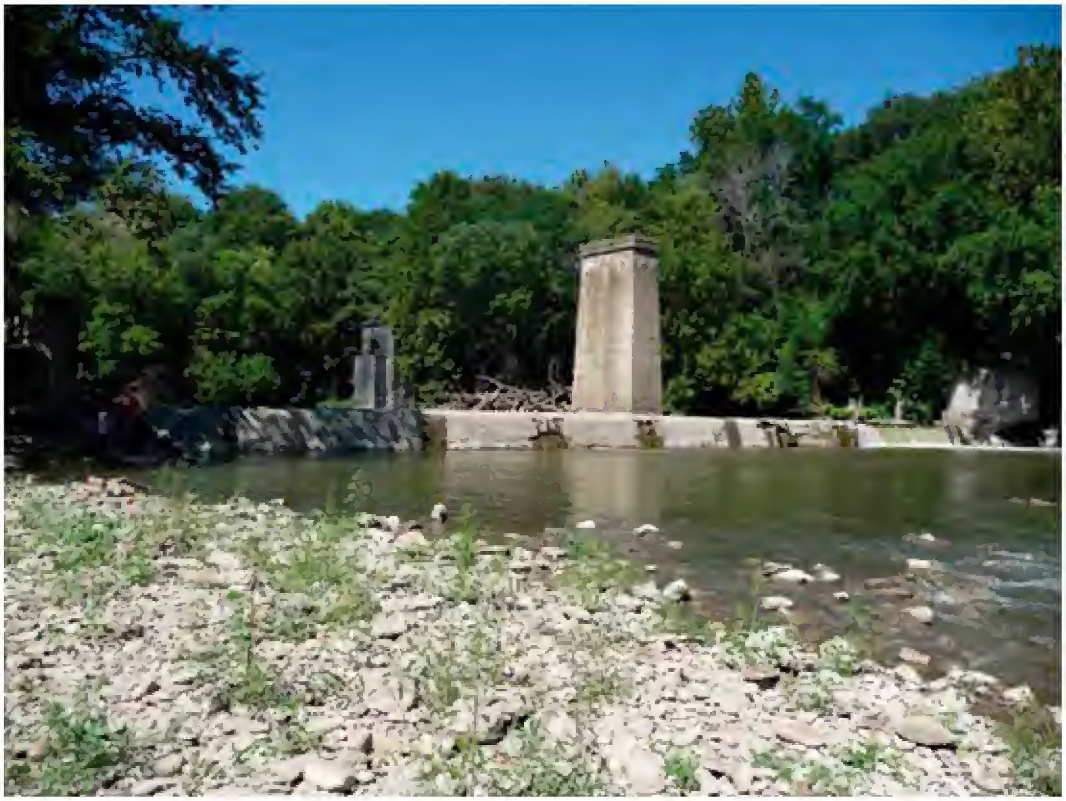


Figure 1 – A lowhead dam in the Vermilion River, Illinois. Dams such as this one are only <12 feet high but still affect both the physical and chemical conditions of rivers (photo from Kevin Cummings, Illinois Natural History Survey).

Freshwater gastropods are a diverse group of invertebrates that are vital components of stream ecosystems. Not only does their sensitivity to stream disturbances make them good biological indicators of stream integrity, but they also occupy a central position in food webs by grazing on periphyton and providing a food source for predators (e.g., fishes, turtles, and birds). They constitute a high percentage of the biomass in many habitats, making them critically important in ecosystem and community dynamics. Aquatic gastropods are, however, among the most rapidly declining groups of organisms on Earth, and have become one of the most imperiled groups of organisms in North America. Nearly 75% of the approximately 700 species have become extinct or are endangered, threatened, or in need of conservation status. Among factors affecting the group are anthropogenic disturbances that result in habitat destruction and fragmentation. Impoundments are one of the major sources of anthropogenic disturbances on streams by affecting both the physical and chemical conditions of streams.

One of the first evidences of an impoundment being constructed was in Egypt along the Nile River. This dam was built nearly 4,500 years ago. Since then, dams have been created for a variety of great reasons to advance human society, including: hydroelectric power, drinking water supplies, irrigation, navigation, flood control, and recreation. Today, dams regulate most major rivers of the world. There are an estimated two million dams in the United States, the majority of which are lowhead dams (also known as low-water or mill dams). Many of these lowhead dams, similar to the one in Figure 1, no longer function for the purpose for which they were created. Nevertheless, they are physical barriers in streams that not only are safety concerns, but can also cause severe disruptions to riverine ecosystems and hinder how streams function.

Impoundments dramatically affect both the physical and chemical conditions of rivers by converting free-flowing habitats to more lake-like conditions, changing flow regimes, altering water quality of streams (e.g., changes in temperature, reductions in oxygen), and increasing siltation upstream from the dam while increasing erosion downstream from the dam. These habitat alterations cause changes in aquatic faunas (e.g., fishes, freshwater mussels, and aquatic insects) by restricting distributions, isolating populations, reducing the numbers of native species, and increasing the numbers of non-native species. Several studies have documented effects of dams on fish, freshwater mussel, and aquatic insect communities, but few have addressed effects of dams on aquatic gastropods. The Conchologists of America (COA) provided funds to help me complete a study that addressed this issue. Data on how lowhead dams affect freshwater mussels are important for the protection of this imperiled fauna.

I set up a study design similar to that of my previous studies, where I addressed the effects of lowhead dams on fishes, freshwater mussels, and aquatic insects. Using existing data from the Illinois Natural History Survey Mollusk Collection, Champaign, I chose three basins in Illinois that contained a diverse and abundant aquatic gastropod fauna and had at least one lowhead dam. I established four sites around each dam: an upstream and a downstream reference site that were free-flowing and had no obvious signs of being affected by the impoundments; a site in the impounded area, which resembled a lake (e.g., no flow); and a site immediately downstream from the dam (e.g., <100 meters from the dam). At each site, I sampled aquatic gastropods by throwing out quadrats and counting the number of snails on and under rocks in the quadrats (Figure 2). I also examined various habitat variables, including substrate type and flow, to determine if any environmental variables could help explain the results. After all, we scientists *love* statistics and can't make any conclusions without them.

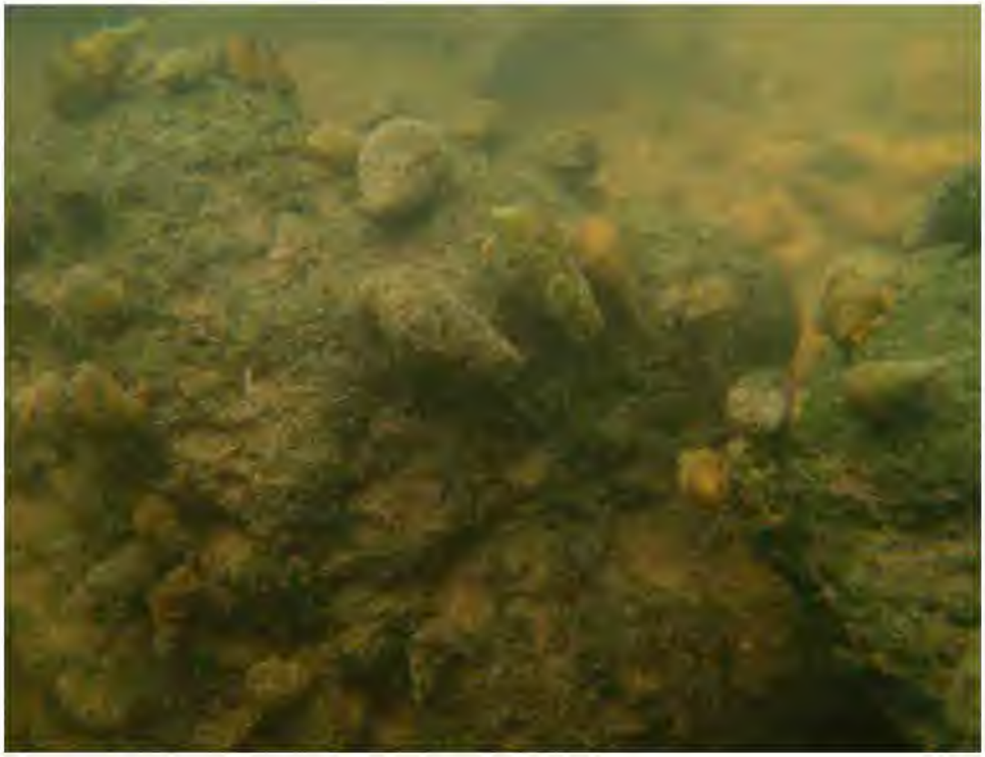


Figure 3. *Elimia livescens* and *Pleurocera acuta* in a free-flowing site on the Kankakee River, Illinois.

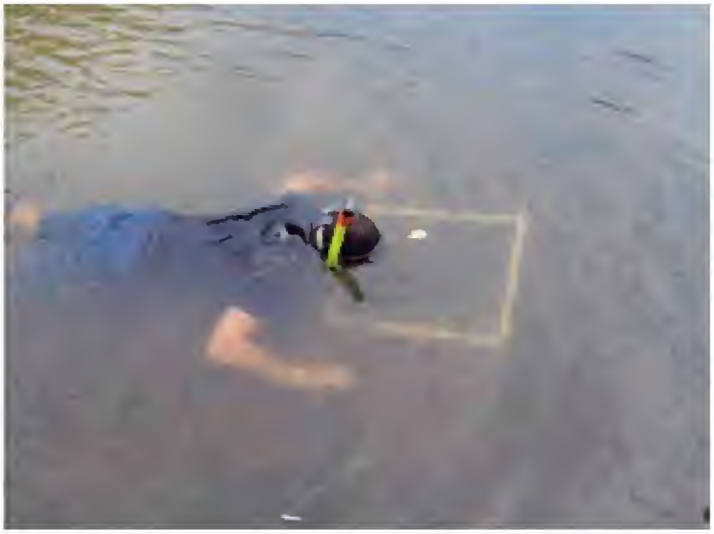


Figure 2. Snorkeling and counting snails in the Kankakee River, Illinois.

The results from my study suggest that dams cause changes in the gastropod fauna by altering instream habitat. The free-flowing sites had substrates that were not covered in silt. These "clean" substrates provided more surface area for algae to grow and therefore more area for snails (Figure 3) to graze. This pattern was not true in the impounded areas, where there was no flow and therefore more silt covering the rocks. These areas had very few, if any, aquatic gastropods. The sites immediately downstream from the impoundments varied. All areas had "clean" substrates, but some had snails whereas others did not. It is important to note that, using data from the INHS Mollusk Collection, these areas had snails present prior to the construction of dams. Those areas that did not have snails typically had high velocities, which suggest that the snails might have been scoured off the rocks.

Data collected from my study are similar to those reported from studies addressing the effects of lowhead dams on fishes, freshwater mussels, and aquatic insects. Because of the reduction in flow and increase in siltation, impounded areas often lack the species described as "habitat–specialists." These areas typically are dominated by "habitat–generalists," or species who can thrive in a variety of habitat conditions. Those areas immediately downstream from the dam contain "habitat–specialists," but they often occur in low densities when compared with free-flowing areas.

My COA-funded study will be published in a scientific journal and therefore will be available to other researchers. COA will be acknowledged in the publication. The monies were used for travel to my study sites and were critical in data collection. I am truly thankful for the support of COA. If you have any questions about my study, please do not hesitate to contact me (jtiemann@illinois.edu).

Jeremy S. Tiemann – Illinois Natural History Survey
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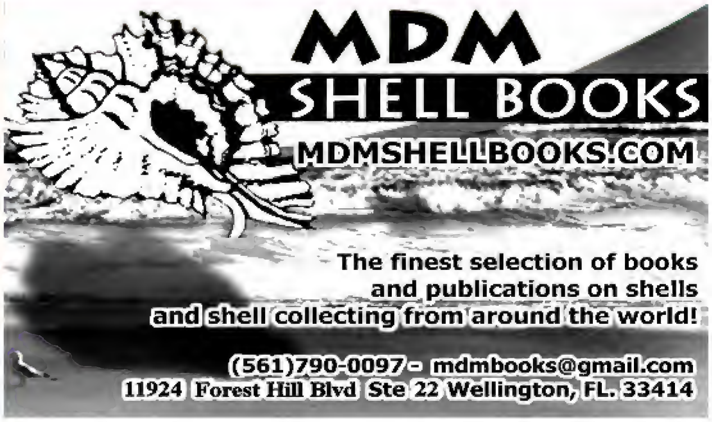

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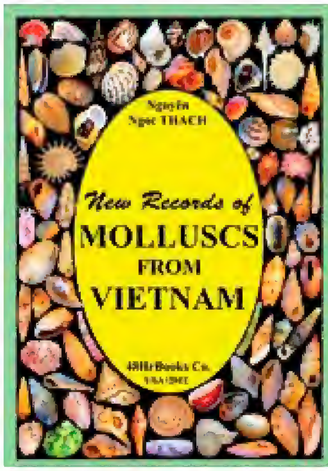

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Our 31st Year

COA *Neptunea* Award

Many of us are beginning plans for the 2013 COA Convention in Sarasota, FL. One of the many events on the agenda is the annual COA *Neptunea* Award(s), and it is once again my privilege to call for nominations.

The consensus of the COA Board is to reopen nominations with a "clean slate" annually. Nominees not selected in previous years are certainly welcome for consideration if renominated - in fact their renomination is encouraged. For the present cycle, nominations will close on June 1, 2013, so as to allow ample time for deliberation before the convention.

By way of background, the *Neptunea* Award (Brunner, 2000; Lipe, 2000) was established at the midyear (1999-2000) meeting of the COA Board in order to recognize outstanding and distinguished service to conchologists and malacologists in recognition of:
1. Service to the Conchologists of America.
AND/OR
2. Service to the scientific interests of Conchologists of America.
AND/OR
3. Service to the science of malacology as it applies to conchologists anywhere.
Although notable exceptions have been made, the COA Board, which serves as the jury for the *Neptunea* Award, has traditionally weighed its consideration for award recipients toward (1) amateurs: those not currently pursuing a principal career involving collection, study, or commerce involving mollusks, (2) individuals "working behind the scenes" and relatively unrecognized, in the COA world, for their contributions, and (3) active members of the COA. Up to three awards have been made at our annual conventions beginning with the Houston event in 2000 (see below). Nomination(s) for the *Neptunea* Award may be made by any COA member, and the format is simple:
Name of nominee:
This person deserves this award because (Here a somewhat detailed paragraph will suffice.)
..... Signed ....
and either snailmail or email that nomination to the COA *Neptunea* Award Coordinator.
[currently Harry. G. Lee / 4132 Ortega Forest Drive / Jacksonville, FL 32210 / shells@hglee.com]

Previous *Neptunea* Award winners:
2000 (Houston, TX): Ross Gunderson, Ben and Josy Wiener, Debbie Wills
2001 (Port Canaveral, FL): Emilio Garcia, Harry Lee, Lynn Scheu
2002 (Sarasota, FL): Richard Petit, Bernard and Phyllis Pipher
2003 (Tacoma, WA) Jim and Linda Brunner, Kevin Lamprell, Doris Underwood
2004 (Tampa, FL): Bobbi Houchin
2005 (Punta Rassa, FL): Richard Forbush, Anne Joffe, William Lyons
2006 (Mobile, AL): Jack Lightbourn, Betty Lipe
2007 (Portland, OR): none given
2008 (San Antonio, TX): Bill Frank, Archie Jones
2009 (Clearwater, FL) none given
2010 (Boston, MA): none given
2011 (Port Canaveral, FL): Alan Gettleman
2012 (Cherry Hill, NJ): Gary Rosenberg, Martin Avery Snyder

Brunner, L., 2000. The *Neptunea* Award. *American Conchologist 28*(3): 3. Sept.
Lipe, B[etty], 2000. Presidents Message. *American Conchologist 28*(4): 2. Dec.

Harry G. Lee
Vice President, Conchologists of America
Submitted 23 September, 2012

Domenick Nicolaci Shell Collection: A Donation to the Museum of Comparative Zoology, Harvard University

Edward Nieburger[1] and Adam J. Baldinger[2]

Domenick Nicolaci (fig.1) was born in Brooklyn, New York, on April 19, 1920, the son of the late Pasquale and Rosaria (Picariello) Nicolaci. He died on Sunday, January 13, 2013, at 92 years of age following a brief illness. He had been living in a retirement home in North Dartmouth, Massachusetts. Mr. Nicolaci graduated from New Bedford High School in 1939. He served in Europe during World War II from 1942-1946 and later in the United States Medical Corps where he graduated from the Walter Reed Pharmacy School. He was a retired American industrialist.

During World War II, the Nicolaci factory, then known as the Youth-Craft Clothes Company, Inc., and later as the Cliftex Corporation, of New Bedford, Massachusetts, was instrumental in keeping our troops warm and dry with its wool and manufactured strong cotton fabric battle garments. They produced over a quarter of a million units of clothing for the military. By 1970, the Cliftex Corporation employed over 3,100 people in seven plants, manufacturing mostly men's suits. Cliftex Corporation reached $100 million in annual sales and had been known to produce 100,000 items per week, including 40,000 men's suits and accessories. The suits were supplied to J. C. Penney's, Sears, Men's Warehouse, Macy's, Mr. Sid's, Jordan Marsh, and Bloomingdale's, among others. They had their own labels including American Trend, Focus, and Floravanti for men and Richard Evans for women. A general manager and senior vice-president once said: "Our products are in some of the finest and some of the most mediocre stores in the country."

Domenick was the President of Cliftex Corporation from 1965 and the Chairman of the Board from 1973. He was active in Junior Achievement, Chamber of Commerce, United Way, and Bank of Boston Bristol N.A. He also served as a Member of the Manufacturer's Advisory Committee of the Governor's Advisory Council. On June 4, 1985, he received the New Bedford area Business Hall of Fame Award.

In 1986, Domenick received an honorary doctorate, Doctor of Business Administration, from the University of Massachusetts in Dartmouth, for his involvement in a number of community activities. He was a member of the Financial Advisory Committee, Trustee, and Chairman of the Fund Raising Committee of Saint Luke's Hospital. In 1976, he and his wife Lydia founded the New Bedford Harbor Services, Greater New Bedford's largest non-profit agency for

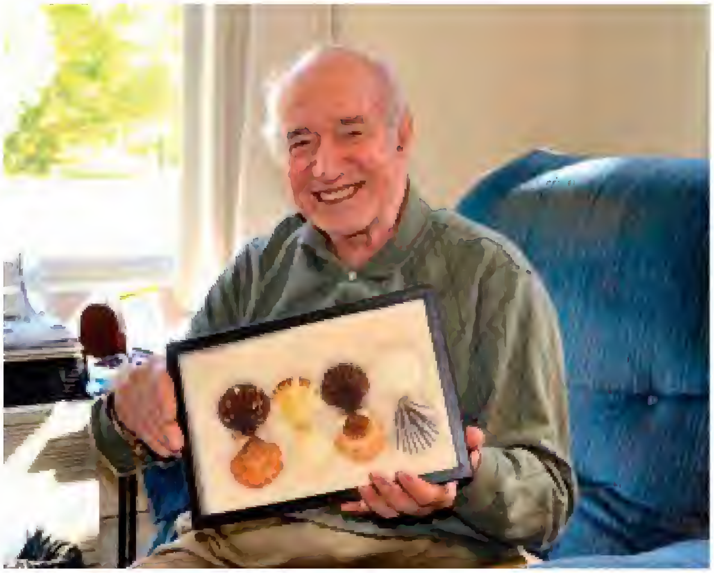


Figure 1. Domenick Nicolaci – age 92 at his home in Dartmouth, Massachusetts. He is holding one of his many Riker Specimen mounts of *Argopecten irridians irridians* (photo taken 16 October 2012 by Mike Estabrook).

Figure 2. Domenick Nicolaci with George Hampson – Mr. Nicolaci's artwork done with no training (photo taken 16 October 2012 by Mike Estabrook).

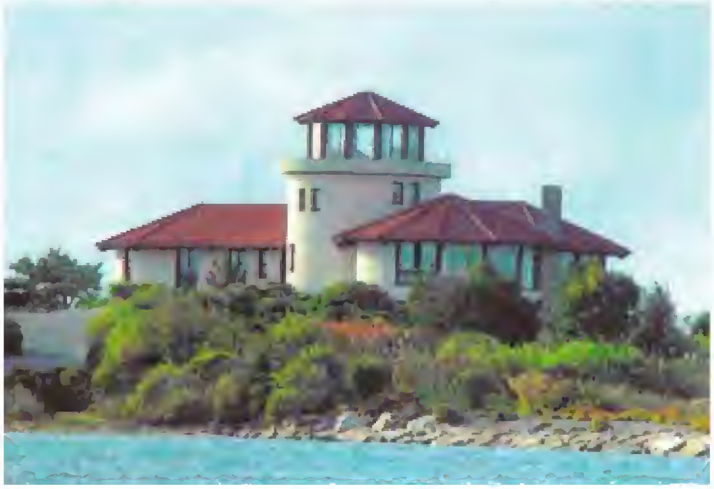


Figure 3. Domenick and Lydia's home on Bella Vista Island in Fairhaven, Massachusetts.

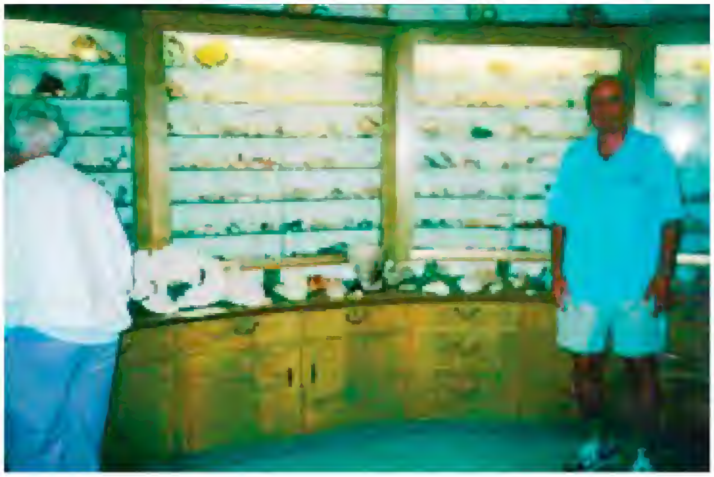


Figure 4. Domenick in his shell room that displayed his "outstanding shell collection from all over the world."

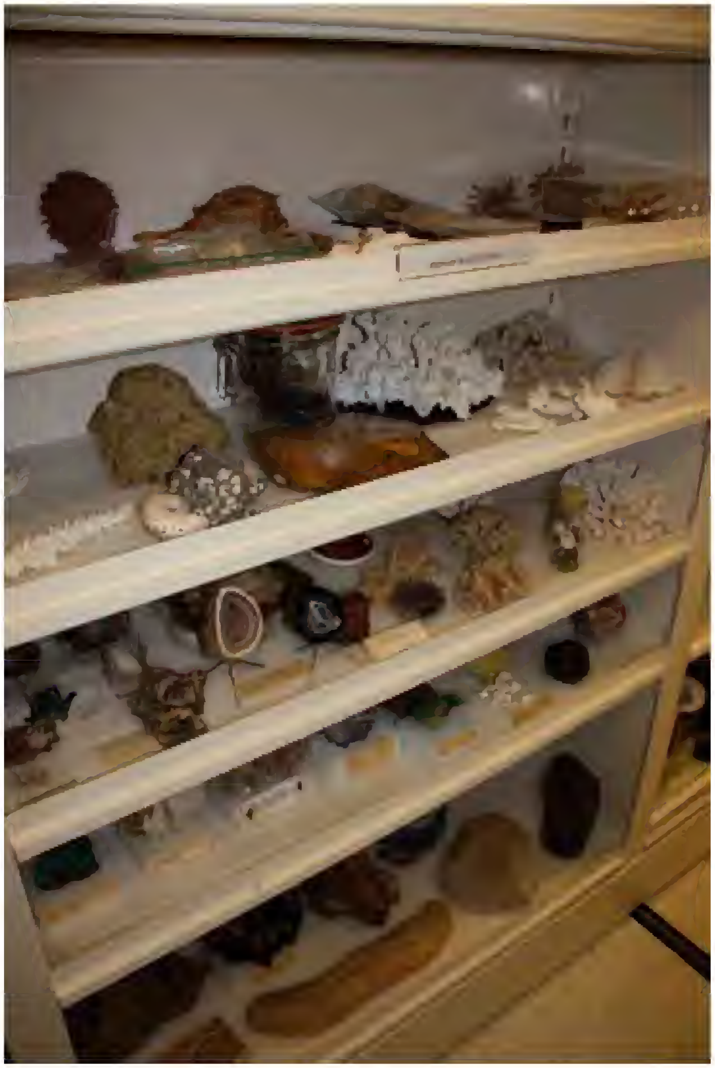


Figure 5. Domenick's collection of corals, echinoderms, minerals, and other artifacts on shelves at the Museum of Comparative Zoology, Harvard University.

mentally challenged adults that monitors five-day and residential programs serving one hundred people. He served as the Treasurer, and as a Board Member assisted New Bedford Harbor Services in the development of the State's first deinstitutionalization program for handicapped adults. He raised money from the private sector to construct several facilities for the mentally challenged.

Domenick's hobbies were many, including oil painting on canvas (fig. 2). He liked automobiles and owned a Jaguar XKE and a Rolls-Royce. He also raised greyhound dogs for racing. In 1971 he purchased an island off West Island, Buzzard's Bay, in Fairhaven, Massachusetts, where he built a villa (fig. 3) with radiant heat. He named his home Bella Vista, meaning "Beautiful View." He wanted his villa to resemble a light-house tower with an observation tower study area, an exterior balcony, and space for his outstanding world-wide shell collection. Access to this four and a half acre island home was by an 1800 foot causeway over marshlands. It was in 1972 that he used three hundred tons of concrete for the foundation and another three hundred tons of concrete for the causeway. The local planning board had rejected a builder's plan for seven houses on the island. The 8,900 square foot house was the only one on West Island. The villa was featured in the October 1971 issue of the *New England Architect Magazine*. The ground floor level was set at an elevation of fourteen feet which allowed two feet above the twelve foot storm tide from the area's worst hurricane which occurred in 1938. Mr. Nicolaci had his ground floor contain only mechanical, work rooms, storage, beach dressing and showers, a patio, two car garage, and elevator entrance. The importance of the shell collection was evident in its being housed on the second and third floors where 450 square feet was reserved for shells (fig. 4).

Both Domenick and Lydia were interested in, among other things, children's charities, and often hosted charity events at their estate. In 1975, 250 people attended the Fairhaven Mothers Club annual fund-raising event that was held at their estate – the event raised $1,000.00 for scholar-

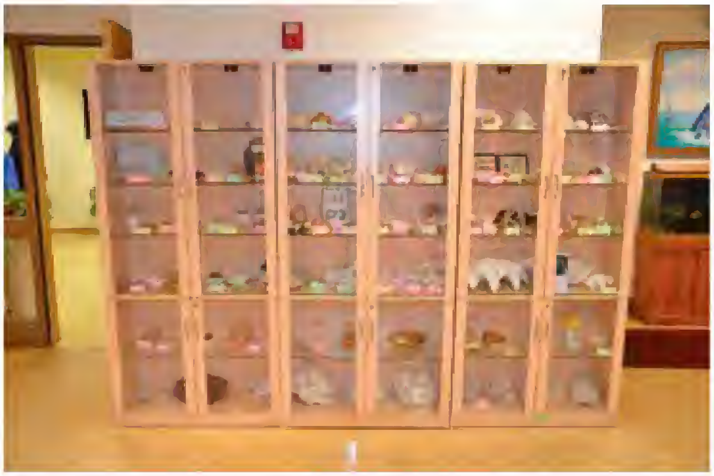


Figure 6. Specimens from the collection that remain on exhibit at the Sea Lab, New Bedford, Massachusetts (photo taken 26 November 2012 by Mike Estabrook).

ships. Domenick and Lydia also entertained many celebrities including Robert Ballard, known for his many underwater documentaries.

Domenick and Lydia, had a daughter, Rosalie (Hassey), two granddaughters, Lisa Perry and Lori Randall, and three great-grandsons, Derek, Jason, and Kevin. Domenick and Lydia's son, Armand Nicolaci, died tragically at the age of forty-five in 1997. Lydia (Madeiros) Nicolaci died on June 3, 2006, at the age of 85. She was born in New Bedford and was one of the original founders with her husband of New Bedford Harbor Services, was a past member of the Fairhaven Mother's Club, and was a former director of the Girl Scouts. Married to Domenick for 63 years, she shared his interest in shells and travel. She also enjoyed gardening, sewing, and painting and was an avid stamp collector.

In happy days, Domenick traveled the Caribbean, island hopping by sailboat, shell collecting along the way. He also did substantial self-collecting in the South Pacific. He visited Hawaii, Fiji, and much of the east and west coastlines of Australia, including the Great Barrier Reef and Broome, gaining the assistance of local guides and collectors when possible. He remembered fondly a resort hotel on Fiji where he collected 25 species of cowries on the nearby reef. A woman collector he had met in Hawaii told him to preserve cowries with formaldehyde. Domenick liked to tell the story of the time he was flying from one collecting spot to another in a small six passenger plane. He was holding a bottle of formaldehyde in his lap for the purpose of preserving specimens. A young couple in front of him was making some distracting commotion, and upon Domenick's looking forward, the bottle in his lap exploded, flooding his lap. Domenick claimed, with tongue in cheek, that he was never quite the same again despite living to the age of 92.

It was actually "in his back yard" that Domenick discovered the wonderful color forms of the local Bay Scal-

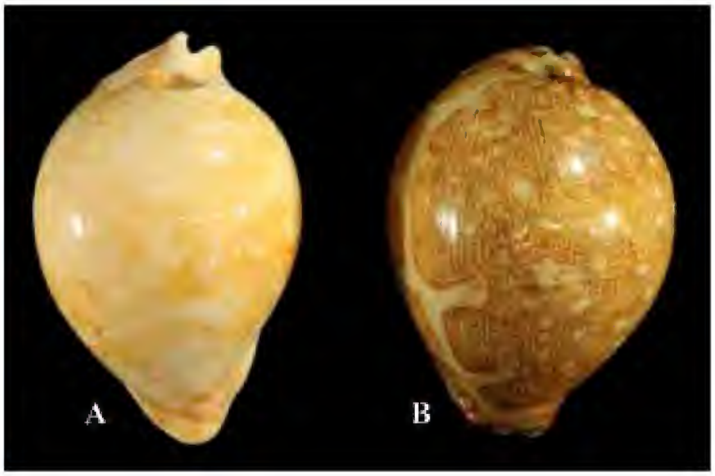


Figure 7. Larger sized Cypraeidae within Domenick Nicolaci's collection: A. *Umbilia armeniaca* (Verco, 1912) MCZ 374472, B. *Leporicypraea mappa viridis* (Kenyon, 1902) MCZ 374490

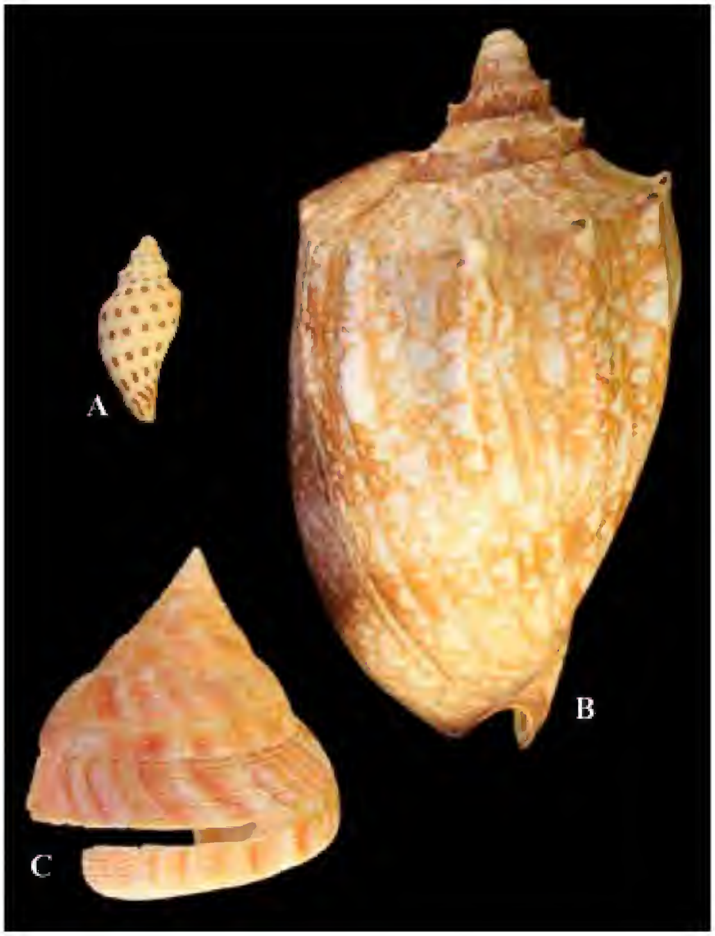


Figure 8. Other interesting shells within Domenick Nicolaci's collection: A. *Scaphella* (*Scaphella*) *robusta* (Dall, 1889) MCZ 374478, B. *Cymbiola* (*Cymbiola*) *rossiniana* (Bernardi, 1859) MCZ 362723, C. *Mikadotrochus hirasei* (Pilsbry, 1903) MCZ 374931

lop, *Argopecten irridians irridians*. It appears some of these brightest colored forms were farmed nearby and sold to local restaurants. Nevertheless, Domenick would collect them and exhibited many of these pink and lavender shells on Riker Specimen mounts (fig. 1).

Domenick's collection of shells, corals, echinoderms, minerals, and artifacts (figs. 5-6) was given to Sea Lab, Marine Science Education Center, part of the New Bedford (Massachusetts) Public School system. The collection was curated (see discussion www.newbedford.k12.ma.us/sealab/shell.htm) by George Hampson (fig. 2) under the auspices of Principal Arthur A. Dutra and Curriculum Developer Simone P. Bourgeois. The collection had been used for teaching purposes and exhibit. In late 2009, Domenick and the Sea Lab Center decided that that collection might be best served in a Natural History Museum. In January 2010 the first shipment of Domenick's precious shell collection was received by the Department of Malacology at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts. Shipments continued with the last of the shells arriving in November 2011. A select number of shells remain on exhibit in a case towards the main entrance to Sea Lab (fig. 6).

The collection contains 1,117 lots of specimens collected from all around the world. In particular the collection includes over 230 species (N=355 lots) of *Cypraea* (figs. 7 & 12). Particularly special is a rare golden form of *Zoila friendii friendii* (fig. 12, top) from Australia, and a *Cypraeovula cruickshanki* from South Africa, a *Ovatipsa rashleighana rashleighana* from Hawaii, a 52mm tiny adult of *Lyncina broderipii*, a *Zoila friendii vercoi* from the Great Australian Bight, *Nesiocypraea teramachii teramachii* and *Leporicypraea mappa viridis* both from Taiwan, and *Austrasiatica langfordi* and *Zoila jeaniana jeaniana* from Australia. The volute collection is also well represented (N=129 lots), including a huge, 117 mm *Voluta (Cymbiolaca) thatcheri* (fig. 11b, right) from Chesterfield Reef or Bellona Reef, in the Coral Sea, northeast of Australia, *Scaphella* (*Scaphella*) *robusta* from the Gulf of Mexico, and *Cymbiola* (*Cymbiola*) *rossiniana* from New Caledonia. The epitonid *Sthenorytis pernobilis* from Caribbean deep-water in this collection is noteworthy for its beauty and rarity. Most of these shells were collected between 1960 and 1973. Some of his shells were purchased from Phillip Clover of California, although Domenick did buy a collection of cowries which came with several shell books. Domenick apparently had a connection with members of the Boston Malacological Club. Specimens of his *Aporrhais occidentalis* have Club member George Buckley as the collector. Another shell has the name of former club member Joy Nielson, formerly of East Wareham, Massachusetts as the collector. A list of specimens and additional information was recorded in Domenick's ledger (figs. 9-10). A complete list of species and associate collection data can be viewed under Accession number 403501 on the MCZ's on-line database (http://mczbase.mcz.harvard.edu/SpecimenSearch.cfm).

This is indeed an extremely fine and valuable collection which clearly represents a lifetime of work. The MCZ is fortunate to acquire such a complete general and historical collection and this material augments their existing collection quite well. The species represented within Domenick's collection make it evident that this was one of a handful of premier shell collections of its time. There are probably specimens which may no longer be available. It has been a privilege to research and document this fine world-wide collection of extremely fine and valuable shells.

Many of Dominick's most exquisite specimens (fig. 11) are now on public display within the Harvard Museum of Natural History as part of an exhibition titled "*Mollusks: Shelled Masters of the Marine Realm*." This exhibition will be in place through February 2014.

Acknowledgements: Much of the contents of this article were the results of direct interviews with Domenick himself. Additional information was provided by his daughter Rosalie Hassey. George Hampson and Simone P. Bourgeois, both at Sea Lab, provided valuable comments and assistance. Gayle and Braden Nieburger assisted in revising and proofreading.

[1] Edward Nieburger, owner of The Shell Gallery, 476 Great Pond Road, North Andover, Massachusetts 01845 enieburger@hotmail.com
[2] Adam J. Baldinger, Department of Malacology, Museum of Comparative Zoology, Harvard University, 26 Oxford Street, Cambridge, Massachusetts 02138 abaldinger@oeb.harvard.edu

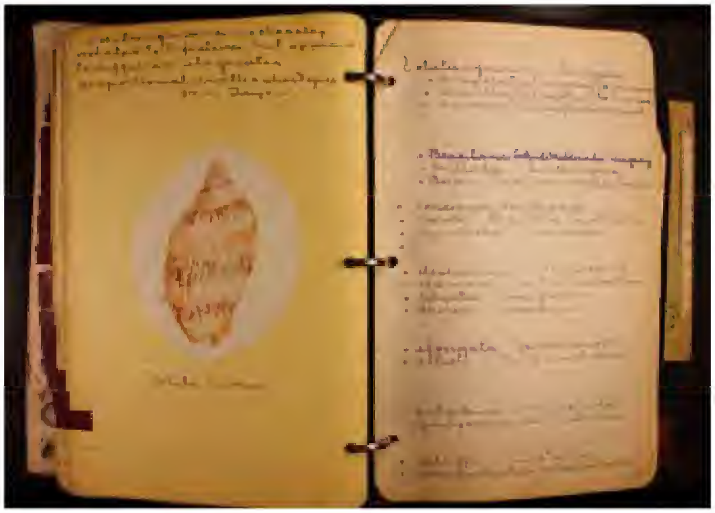
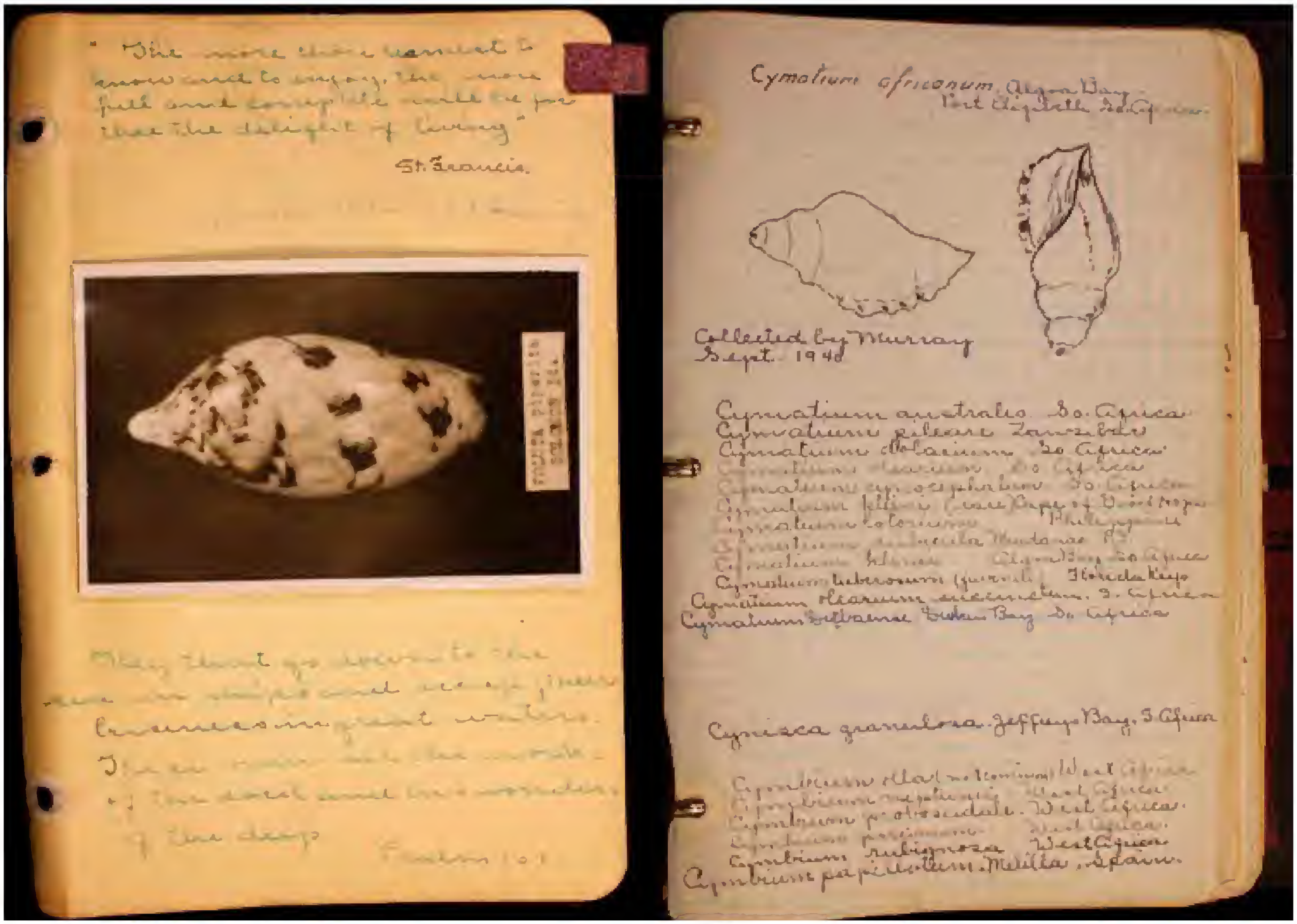


Figure 9. The "V" section of Domenick Nicolaci's ledger book – *Voluta* species. He writes " Voluta africana *is closely related to* V. festiva, *but appears to differ in its greater proportional width & short spire form – Tyron*"



"The more thou learnest to know and to enjoy, the more full and complete will be for thee the delight of living"
St. Francis.

They that go down to the sea in ships and occupy their business in great waters. These men see the works of the Lord and his wonders of the deep. Psalms 107.

Cymatium africanum Algoa Bay
Port Elizabeth So. Africa

Collected by Murray
Sept. 1948

Cymatium australis So. Africa
Cymatium pileare Zanzibar
Cymatium dolarium So. Africa
Cymatium [illegible] So. Africa
Cymatium cynocephalum So. Africa
Cymatium filosum (cape) Cape of Good Hope
Cymatium [illegible] Philippines
Cymatium [illegible] Mindanao P.I.
Cymatium [illegible] Algoa Bay So. Africa
Cymatium tuberosum (juvenile) Florida Keys
Cymatium olearium succinctum. S. Africa
Cymatium [illegible] [illegible] Bay So. Africa

Cynisca granulosa. Jeffreys Bay. S. Africa

Cymbium [illegible] West Africa
Cymbium [illegible] West Africa
Cymbium proboscidale. West Africa.
Cymbium [illegible] West Africa.
Cymbium rubiginosa West Africa
Cymbium papillatum. Melilla, Spain.

Figure 10a & b. Page one (left, a) and an additional page (right, b) taken from Domenick Nicolaci's specimen ledger. He writes on page one, "*The more thou learnest to know and enjoy, the more full and complete will be for thee the delight of living" – St. Francis"* and *"July 9 - 1954 – 1812 species."* Although the original picture is missing from the middle of the page, presumably it was something like an image of *Voluta piperita* that was found in the back of his ledger. And finally, at the bottom of page one he writes *"They that go down to the sea in ships and occupy their business in great waters; These men see the works of the Lord and his wonders of the deep. Psalms 107."*

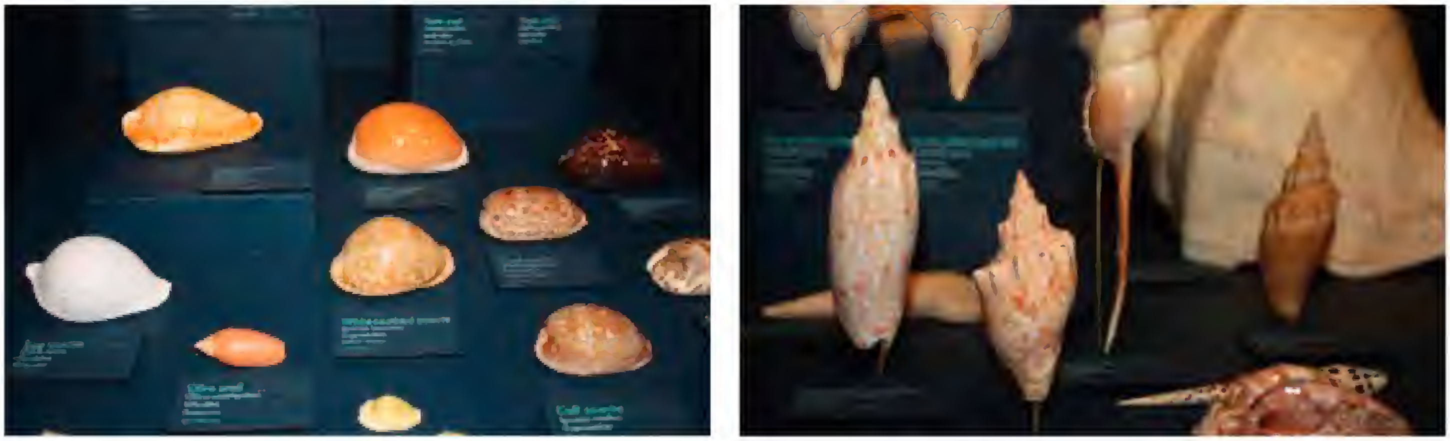


Figure 11a & b. Domenick's specimens within the Harvard Museum of Natural History as part of an exhibition titled "*Mollusks: Shelled Masters of the Marine Realm.*" This exhibition will be in place through February 2014. Left image (a), upper left shell is the rare golden form of *Zoila friendii friendii* from Australia. Right image (b), left volute is a huge (117mm) *Voluta* (*Cymbiolaca*) *thatcheri* from northeast Australia.

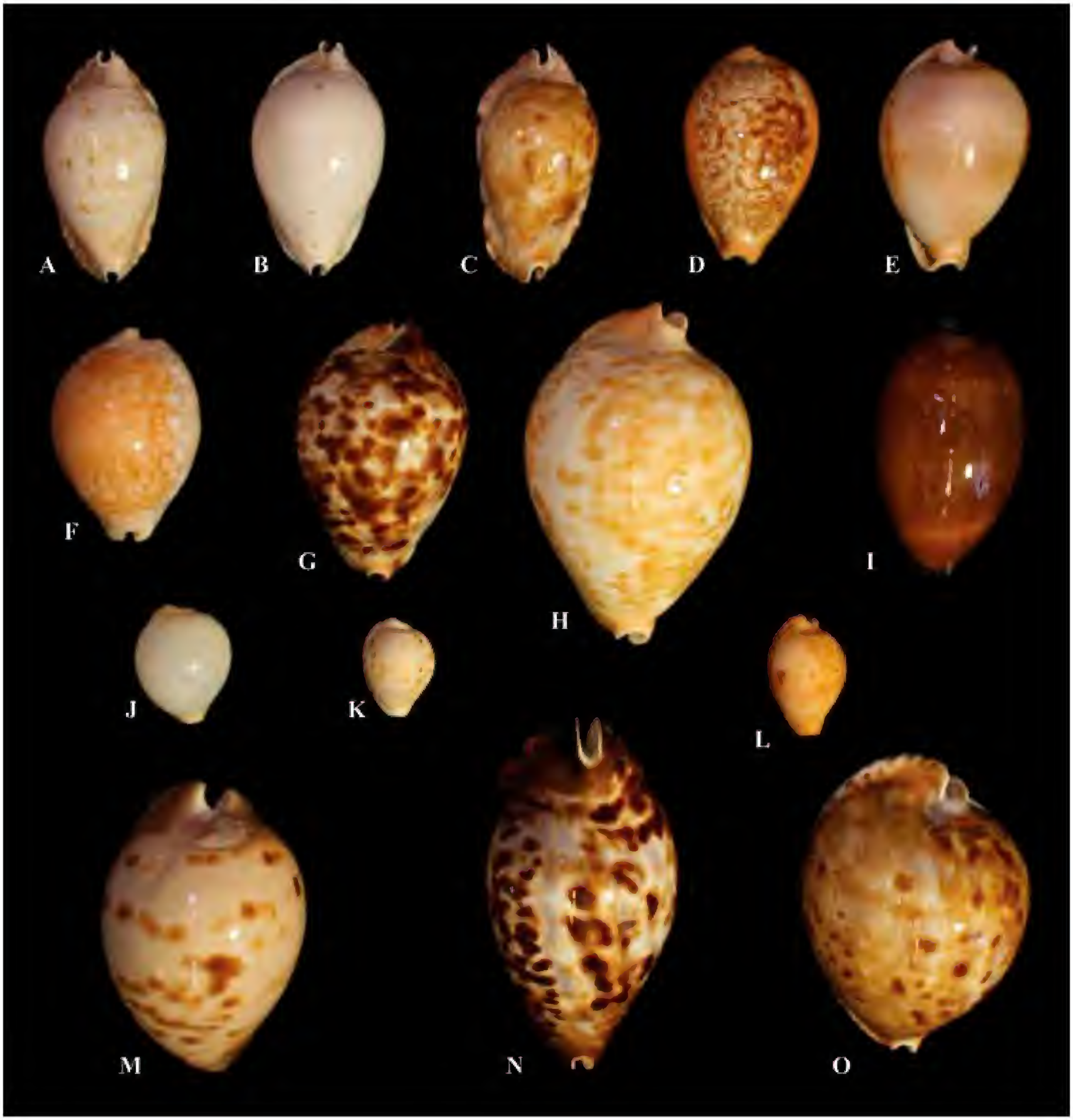
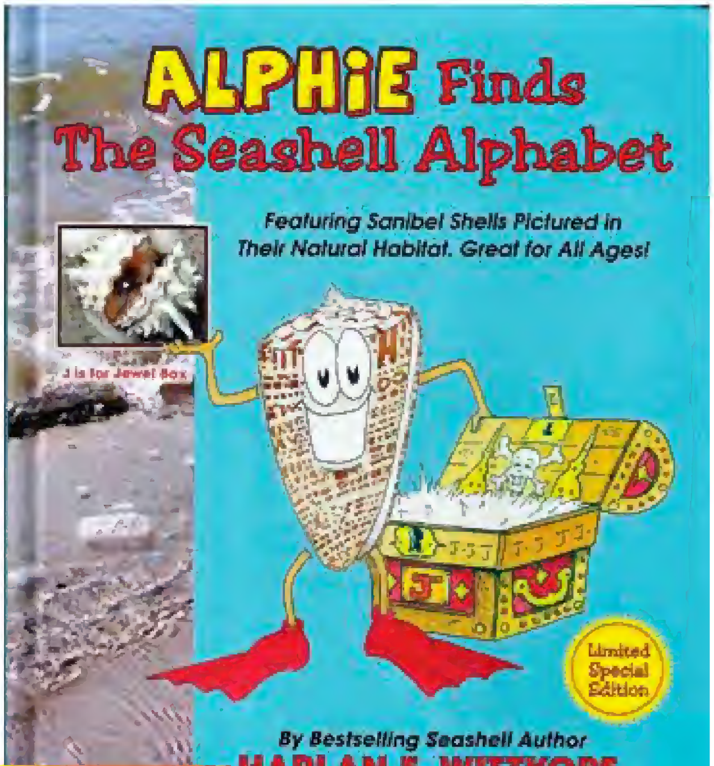


Figure 12. A select number of Cypraeidae within Domenick Nicolaci's collection: A. *Zoila marginata marginata* (Gaskoin, 1849) MCZ 374498, B. *Zoila marginata albanyensis* L. Raybaudi, 1985 MCZ 374496, C. *Zoila marginata consueta* Biraghi, 1993 [= *Z. marginata marginata* (Gaskoin, 1849)] MCZ 374497, D. *Austrasiatica langfordi* (Kuroda, 1938) MCZ 374466, E. *Nesiocypraea teramachii teramachii* (Kuroda, 1938) MCZ 374465, F. *Lyncina broderipii* Gray "in" G.B. Sowerby I, 1832 MCZ 374464, G. *Zoila jeaniana jeaniana* (Cate, 1968) MCZ 374485, H. *Zoila jeaniana aurata* L. Raybaudi, 1979 MCZ 374474, I. *Talparia exusta* (G.B. Sowerby I, 1832) MCZ 374486, J. *Cypraeovula cruickshanki* (Kilburn, 1972) MCZ 370306, K. *Ovatipsa rashleighana rashleighana* (Melvill, 1888) MCZ 361962, L. *Propustularia surinamensis* (G. Perry, 1811) MCZ 370315, M. *Zoila venusta* (G.B. Sowerby, 1847) MCZ 374473, N. *Zoila friendii friendii* (J.E. Gray, 1831) MCZ 374491, O. *Zoila friendii vercoi* F. Schilder, 1930 MCZ 374470.

Alphie Finds The Seashell Alphabet

by Harlan E. Wittkopf, illustrated by Ken Vinton, with a foreword by S. Peter Dance

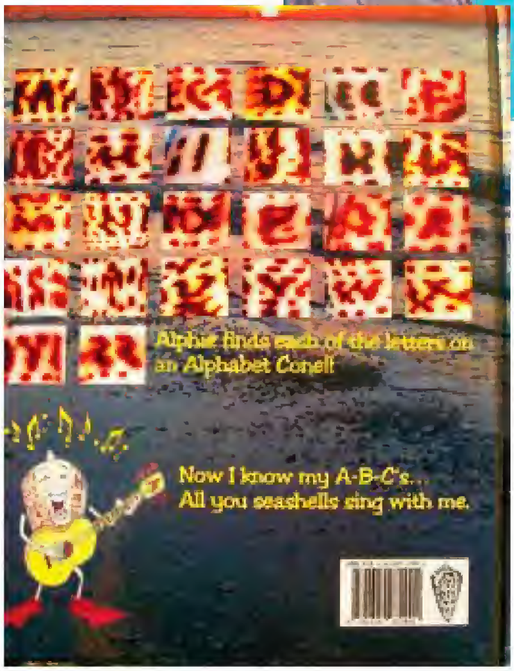
Book review by Rusti Stover


ALPHiE Finds
The Seashell Alphabet
Featuring Sanibel Shells Pictured in Their Natural Habitat. Great for All Ages!
J is for Jewel Box
Limited Special Edition
By Bestselling Seashell Author
HARLAN E. WITTKOPF
Illustrations By: KEN VINTON
Foreword By: S. PETER DANCE

Reviewing a children's book in this publication may seem unusual, but this particular volume is worth noting for its educational offerings to young future shell collectors. Most present-day shell clubs will acknowledge that their membership rosters are dwindling, as members "age out" and younger members are few and far between. The time to foster a lifetime interest in shells and shelling may indeed be in the grade-school age group, and this cleverly written and beautifully illustrated volume does indeed address that!

"Alphie Finds the Seashell Alphabet" is the culmination of Harlan Wittkopf's obsession with the alphabet cone (*Conus spurius atlanticus*), stemming from shells found in the proximity of his beach house on Sanibel Island over the years. Harlan mainly lives in Iowa, but frequents his second home on the lighthouse end of Sanibel, where, since he found an alphabet cone in 2005 that happened to show all three of his initials - HEW - he has amassed a collection of them that show every letter and the numbers 1 through 12.

He published a brochure, "Alphabet Cones: Living Learning Tools" a few years back, and has made it available to schools far and wide. After international exposure of the brochure in books, journals, and newspapers, and a serendipitous meeting with a talented cartoonist and illustrator while hunting the cones on the Sanibel beaches, the book came together and premiered at the Bailey-Matthews Shell Museum on Sanibel in November of 2012.


Alphie finds each of the letters on an Alphabet Cone!!
Now I know my A-B-C's...
All you seashells sing with me.

Noted shell book author and friend of Harlan's, S. Peter Dance, wrote the foreword for the book and also sent a message to be read at the premiere, wherein he cites how Harlan has "brought the fascinating world of shells vividly to the attention of children," which hopefully will ensure the future of interest in shells and shell collecting for generations to come.

There is a special feature hidden in each of the book's full-page illustrations; Ken Vinton has cleverly inserted the American Sign Language symbol for every letter into his illustrations, a further learning note and more fun for the reader. The story line of the book tells how Alphie and his classmates are learning letters, when their teacher tells them that the names of seashells on the island are a great way to learn the alphabet, and points out that they can also find letters ON the shells...piquing Alphie's interest. The classmates go on the hunt for local shells, and an adventure ensues.

The book is published in soft cover featuring 64 pages with full-color illustrations and photographs throughout in an 8.25 x 10.5 format (the example shown in the photograph is a Limited First Edition Hard Cover). The book's colorful front and back covers are key to the fun contained inside. Front and back flyleaf pages attest to the diversity of this shell, and the back cover wraps up the book with photos of the entire alphabet on shells. All of the beautiful photographs throughout were taken on Sanibel by Harlan, and the charming cartoon illustrations of Alphie and friends on the beach, in the water, and under the sea were vividly rendered by Ken Vinton.

The book can be ordered for $13.00 a copy plus $1.00 postage and handling (total of $14.00) from: Harlan E. Wittkopf, 216 Robinson Drive, Algona, Iowa 50511. Phone number: 515-295-5597.

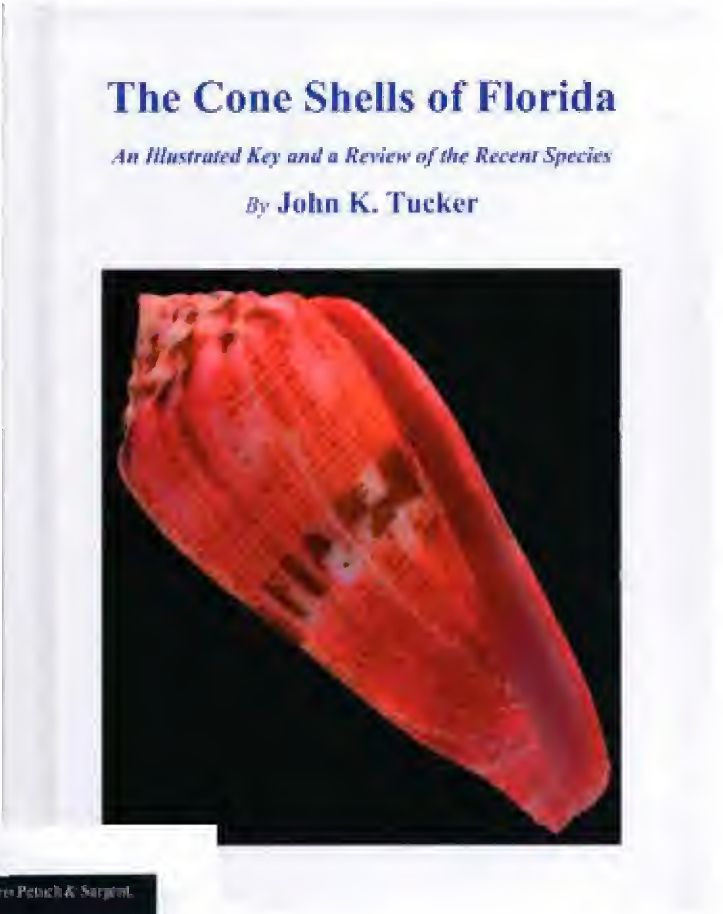
To any sheller with young children or grandchildren in their life, looking for a way to light that shelling spark in another generation, this book seems to be the answer!

The Cone Shells of Florida: An Illustrated Key & a Review of the Recent Species

by John K. TUCKER, 2012

MdM Publishing, Wellington, Florida, ISBN 978-0-9847140-1-8, 155pp., 48col.pls., hardcover, Euro 70.00

Review by Tom Eichhorst

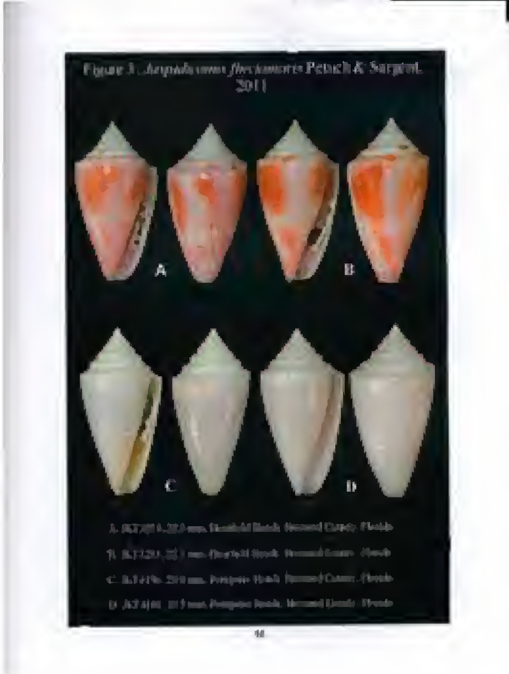


The Cone Shells of Florida

An Illustrated Key and a Review of the Recent Species

By John K. Tucker

This is the first fully illustrated guide dedicated to Florida cones and it is most welcome. To date, perhaps the best information on Florida's cone shells was to be found as a hit or miss proposition on the Internet, or to the seriously dedicated, a series of often difficult to find monographs. John Tucker, a long time cone collector and expert (now retired from the Illinois Natural History Survey), has changed all of that with this concise and lavishly illustrated volume. One of the first things the reader will notice is that John has provided a key to Florida cones. Anyone who has ever attempted to construct an identification key will appreciate just how difficult this is. John provides color images along with the key, to make working out an identification even easier. I personally found it expedient to go straight to the color plates of the various species, but then go back to the key to confirm some morphological differences. Most everyone has *Jaspidiconus jaspideus* (Gmelin, 1791) in their collection (listed as *Conus jaspideus*). So when you get the book, take your specimen in hand and compare it to the color plate on page 37. Ah, not an exact match? There are three more subspecies to confuse the issue. Going back to the key can make proper identification a bit easier. Another really nice feature of this book is that on page iii there is a "List of figures." This is a list of the color plates of each cone species with page number(s). This makes a quick check on identity easy and straightforward.



The book uses a multi-family systematics for Florida's cones, based largely on Tucker & Tenorio, 2009, "Systematic classification of Recent and fossil conoidean gastropods" (Hackenheim: Conchbooks, 296 pp.) This book is not included in the bibliography, but is required reading for anyone interested in the latest systematics of the more than 600 species of cone. For Florida this means two cone families: Conilithidae, with two subfamilies (1 in Florida) and 19 genera (3 in Florida), and Conidae, with two subfamilies (both represented in Florida) and 66 genera (9 in Florida). This gives a grand total of 33 Florida cone species and subspecies (including one new species) described and illustrated in this book.

If the description of the new systematics sounds daunting, do not be put off. This book is easy to use and the superb color illustrations make checking identification simplicity itself. There are multiple views and multiple examples showing shell variation. If you have a Florida cone, the odds are quite good you will find an example that matches it in this book. If not, I am sure John would be most interested in hearing about your shell.

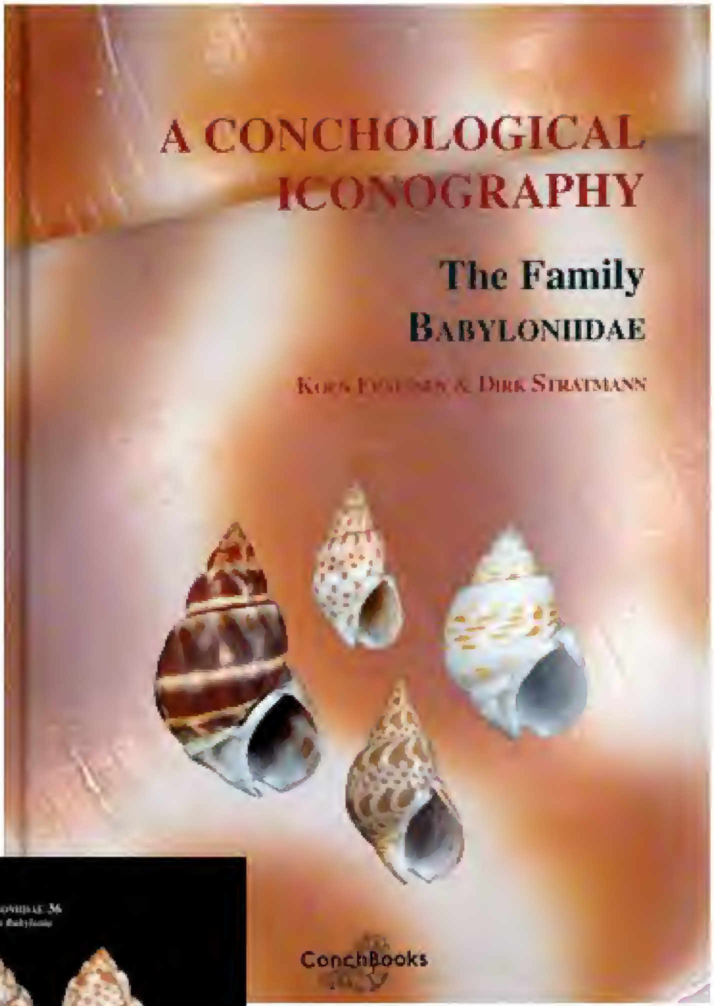
This book is pretty much a "must have" for anyone interested in cone shells, and especially to anyone interested in Florida cone shells. Both the amateur collector and the professional malacologist will benefit with the addition of John Tucker's book to their shell library.

The Family Babyloniidae

by Koen Fraussen & Dirk Stratmann, 2013

**Conchbooks, Harxheim, Germany,
ISBN 978-3-939767-48-0 (hard bound),
978-3-939767-47-3 (loose-leaf as part of the *Conchological Iconography*), 93 pages of text, 43 color plates (about $77 for the loose-leaf and $98 for the hard bound)**

Review by Tom Eichhorst



This has long been a favorite family of many shell collectors, whether considered a subfamily of Buccindae or with the more recent full family status. The Babyloniidae are attractively patterned, glossy shells that are fairly easy to acquire, except for a few really difficult species that make completing the family a real accomplishment. There are only about 20 species and subspecies, and for a long time it seemed to be a fairly stable group. Then newly named species began to appear and when collectors went looking for references, they found them rather few and far between. There are the original descriptions in the various Sowerby and Reeve publications, then a more recent (1981) monograph by Altena and Gittenberger, a 2001 monograph by Harasewych and Kantor, and an update of the previous work by Gittenberger and Goud (2003). This publication (*American Conchologist*) printed a short review of the family (thought of then as a subfamily) by Eichhorst in 2005. These all pretty much covered the same names and the modern collector, who was seeing a plethora of new names and new color and pattern variations, was without any really usable reference.

This book has done more than answer those issues. The authors provide a lavishly illustrated and concise guide to this family, with a history of the so-called ivory shells or sometimes Babylon shells, an interesting etymology of the Babylon name, a review of the shell in its many uses today (mainly food and as a collectible, but there are other uses), and some of the most thorough species accounts you will find anywhere. Each known species is listed with type data, complete synonymy, taxonomic history, type locality and range, and a discussion (remarks) of each species and how it differs from others. The color plates are large and clear and show many examples of each species, including locality variants and color forms. Because *Babylonia* are a popular food item, the authors point out the problems this can cause with locality data (many are raised well away from their home range and escapees are almost a given) and color and pattern identification. Many of the farm-raised specimens are being selected for more "attractive" colors and patterns. Where the authors determined that new species were actually color variations or forms, they illustrated this quite convincingly. At the same time they admit that much remains unknown about this small family and that there are almost certainly undescribed species waiting for the lucky collector.

Collecting Babyloniidae has long been frustrating due the rarity of a couple of the species, the many forms and varieties, the newly named species, and the uncertain locality data often associated with this group. This book goes a long way to answering all but the rarity issue - you are on your own there. A must add to the shell collector's library. You will find it an interesting, sometimes intriguing read.

Museum's anniversary to be celebrated

Tom Rice

It doesn't seem possible, but forty years have passed since the opening of THE OF SEA AND SHORE MUSEUM in The General Store Building in historic Port Gamble, Washington. But it is indeed true! And to celebrate this occasion, the current proprietors of the General Store, Kim and Eric, are planning something special for Sunday, May 26, 2013. Docents will be on hand to guide visitors through the display areas and explain and answer questions concerning the specimens of shells and other natural history objects on display. Refreshments will be served. Plans are for curator Tom Rice to be in attendance, travelling from his home in Phuket, Thailand. He hopes to meet and greet many of you on May 26.

Tom and friends opened a small display area on the second floor mezzanine of the General Store building on Memorial Day weekend in 1973. The display consisted of several show cases of shells from Tom's collection. During the next few months the displays were expanded into the rest of the mezzanine level – taking advantage of the wall-mounted display boxes (some 54 in total) where, in the era of the company-run (Pope & Talbot, Inc.) store, there had been clothing items such as socks, shirts, underwear, etc. displayed. The shell and natural history displays were put together by Tom and Larry and Judy Peck (Larry's father, Charles, was manager of the lumber mill and granted us the use of the area for our display – I don't think he realized how, like Topsy, this display would grow and grow). Judy painted the two sea-view murals, one depicting a South Seas coral reef, the other a typical Puget Sound area beach.

Over the next few years more display cases were added and glass covers and lighting built for the 54 open display boxes and carpet installed. The Jerry Ward and Herb Young families were instrumental in this endeavor. The original entrance to the museum was via a nearly hidden (between two beer coolers) staircase. Eventually, during a later remodel of the building's interior (being a National Historic Site the exterior of the buildings cannot be altered), the stairs were moved to their original position and access to the Museum was made more visible.

The Museum's displays continued to expand and included a large portion of the third floor mezzanine. Our guest book reflected the far flung homes of our visitors: from nearby towns to the Galapagos Islands, South Africa, Russia, and Israel (to name but a few). "You'll Be Amazed" soon became the motto of the museum – as this was the exclamation of myriads of visitors who had no idea of the variety and diversity of colors and shapes presented by the lowly mollusk. Over the years we found third generations of the same families returning to view our displays.

The store front, pretty much as it has appeared for the last 40 years.

R. Tucker Abbott (left) and Tom Rice (right) at the base of the "hidden" stairwell.

Basket stars and other sea stars on display.

Crabs, big and little, with and without shells, on display.

Seashells were not the only display items, as these quartz crystals attest.

The improved mezzanine display cases and new stairs.

The Pectinidae display wowed visitors, both shell collectors and casual drop-in guests.

Riker mount displays cover the wall, a perfect spot for smaller shells.

A display of glass floats and *Xenophora.*

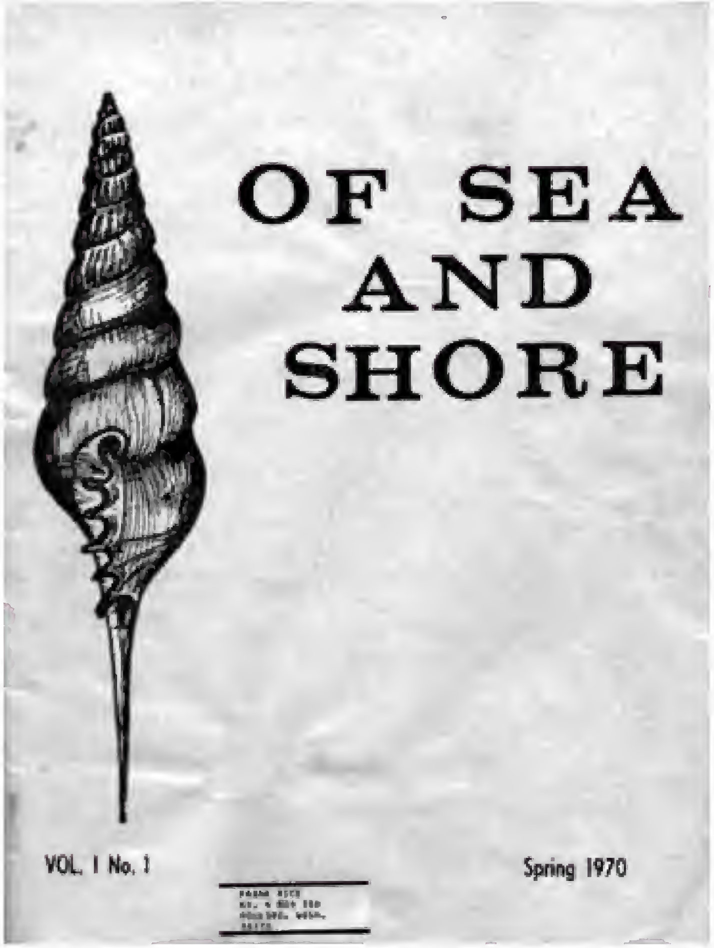
Tucker and Cecelia Abbott visit the store and museum.

The Museum took an active part in several meetings, over the years, of shell enthusiasts, hosting the Conchologists of America twice and participating in the meeting of the American Malacological Union. Our magazine, *Of Sea and Shore*, published 108 issues between 1970 and 2007 and was read by subscribers in more than 70 countries. The Pacific Northwest Shell Club (which curator Tom Rice founded in 1960) has met numerous times in Port Gamble and its members have been instrumental in obtaining some of the objects on display.

The Museum downsized in 2002 as our curator had retired from his employment with the Washington State Department of Transportation and was planning a move to far-off Thailand. We eliminated the sales area (and the need for someone to constantly be on site) and consolidated the displays from the 3rd floor onto the 2nd. A further change to the display area was the new carpeting and lighting installed by Olympic Rersource Management (who manage the town site), and the maintenance of the area has been undertaken by the management of The General Store.

One realizes the passage of time when recalling the events mentioned above. The Museum has been in existence through seven different managers of The General Store, six different Postmasters at the Post Office, four different managers of the saw mill (prior to its closure in 1995), and likely more than 100,000 visitors, who have all, we hope, enjoyed and learned from our efforts.

Tom Rice, Curator
Of Sea and Shore, Inc.



OF SEA
AND
SHORE

VOL. I No. 1

Spring 1970

The first issue of Tom Rice's *Of Sea And Shore*, Spring 1970. This issue had 53 pages! All of the issues of *Of Sea And Shore* are available as high quality PDF files on a DVD available online for $25 from editor@ofseaandshore.com. Low quality samples of the issues from 1970 to 2007 may be seen at www.ofseaandshore.com

Editor's note:

I vividly recall my first visit to the Of Sea And Shore Shell Museum in Port Gamble. I remember driving through the narrow tree-lined streets and finally arriving at the picturesque General Store, just as pictured on page 26. What all of these images do not quite convey is the atmosphere. The feeling of walking into that crowded store and finally realizing the shells were upstairs. This is not a light, glass and stainless museum, but much more like an old turn of the 19th Century establishment. I actually don't remember if the floors creaked, but either way, the atmosphere was singular. I do remember looking into a glass case of olive shells, all decked out in martini glasses. There was plenty of science here, but Tom never takes himself too seriously. Only someone with a sense of humor and a dedication that is hard to be believed could have turned out 108 issues of what was a premiere American shell magazine. The back issues (available on DVD, see previous page) are a treasure trove of shell information and history. Thank you Tom Rice for all you have given to our avocation.

Tom Eichhorst

Broward Shell Show - 2013

The 2013 Broward Shell Show was enjoyed by all and very well attended. Our exemplary judges, Nancy Leslie, Sandy Moran, Harry Lee, and Richard Kirk, had a difficult time awarding trophies this year as there was tough competition with the many high quality exhibits. Congratulations to the award winners and thank you to everyone who participated in our show. We were very pleased to sign up over fifty members at the show this year!!!

Nancy Galdo and Alice Pace
Co-chairs - Broward Shell Show

Bob and Alice Pace won the American Museum of Natural History Award with their exhibit, "Uncommon to Rare Florida/Carribean Gastropods."

Sheila Nugent won the DuPont Award for her entry, "Native Americans, the First Collectors."

Gene Everson won the COA Award for his entry, "GLYCYMERIDIDAE," a fitting follow-on to his last year's winning exhibit, "VENERIDAE."

2013 BSC SHELL SHOW AWARDS – SCIENTIFIC DIVISION

AMERICAN MUSEUM OF NATURAL HISTORY AWARD – Robert L. Pace and Alice L. Pace – Uncommon to Rare Florida/Caribbean Gastropods (Category: Florida/Caribbean any manner)

CONCHOLOGISTS OF AMERICA AWARD – Gene Everson – GLYCYMERIDIDAE – (Category: Super 10)

THE DuPONT AWARD – Sheila Nugent – Native Americans, the First Collectors (Category: Educational)

"BEST OF THE BEST" – Robert L. Pace and Alice L. Pace – The World Wide Invader - Giant African Snail!

LEN HILL MEMORIAL – Doug Thompson – Lion's Paws (Category: One species Any manner)

SHELL OF SHOW - Self Collected – Jae Kellogg – *Conus spurius* Gmelin, 1791 (Category: Single Shell self-collected)

SHELL OF SHOW - Any Manner – Robert L. Pace and Alice L. Pace – *Latirus mcmurrayi* Clench & Aguayo, 1941, in "Uncommon to Rare Florida/Caribbean Gastropods" (Category: Florida/Caribbean any manner)

JIM VUNKANNON MEMORIAL FLORIDA / CARIBBEAN TROPHY - Robert L. Pace and Alice L. Pace - Uncommon to Rare Florida/Caribbean Muricidae (Category: Super 10)

GERRIT deGRAFF MEMORIAL – Doug Thompson – *Spondylus americanus* Hermann, 1781 (inside another *Spondylus americanus*) (Category: Florida/Caribbean Self-collected)

NEIL HEPLER MEMORIAL TROPHY FOR EDUCATIONAL EXCELLENCE – Pat & Bob Linn – Those Amazing Spider Conchs (Category: One genus any manner)

BEST STUDENT EXHIBITOR TROPHY – SCIENTIFIC – Marissa Linn – Treasures from the Beach (Category: Student 7-12 Grade, Self-collected)

BEST SEA LIFE EXHIBIT TROPHY – Doug Thompson – Texas Longhorns (Category: Sea Life)

PEOPLE'S CHOICE AWARD – SCIENTIFIC - Robert L. Pace and Alice L. Pace – The World Wide Invader - Giant African Snail!

Judge's Special Merit ribbons (2) – Each scientific judge awarded a Special Merit

Doug Thompson – triple *Spondylus* (2 species, 3 colors) in Spiny Oyster exhibit

Robert L. Pace and Alice L. Pace – *Murex beauii* Fischer & Bernardi, 1857, in Uncommon to Rare Florida/Caribbean Muricidae exhibit

2013 BSC SHELL SHOW AWARDS – ARTISTIC DIVISION

BEST STUDENT EXHIBITOR TROPHY - ARTISTIC – Marissa Linn – Rolling to the Beach (Category: Hobbyist Student Grades 7-12)

BEST IN SHOW TROPHY - HOBBYIST – Tom Laurin – Emerging Sun & Ocean Produce (Category: Beginning Exhibitor – Hobbyist)

BEST IN SHOW TROPHY - PROFESSIONAL – Kinsey Maxell – Neptune's Treasures (Category: Professional Décor – Tabletop only)

BEST IN SHOW TROPHY - SAILOR'S VALENTINE – David Rhyne – Farewell My Love (Category: Professional Double Sailor's Valentine)

BEST TABLE TOP TROPHY – Sue Burns-Piras & Mario Piras – Worldwide Sea Glass (Category: Professional Special)

BEST WALL HUNG TROPHY – Marci Chamberlain - Mermaid's Garden (Category: Professional Décor – Wall hung only)

FAY MUCHA MEMORIAL BEST COLLECTIBLES TROPHY – Sonny Ogden – Stickchart Exhibit

BEST BEGINNING ARTISTIC EXHIBITOR – Betty Mixon – Neptune's Parlor (Category: Hobbyist Beginning Exhibitor)

Judge's Artistic Special Merit ribbons (2) – Each scientific judge awarded a Special Merit

Betty Mixon – Neptune's Parlor (Category: Hobbyist Beginning Exhibitor – Hobbyist)

Shannon Webster – Neptune's Crown (Category: Professional Décor – Tabletop)

Thanks to this year's judges: (left to right) Nancy Leslie, Sandy Moran, Harry Lee, and Richard Kirk.

The Jacksonville Shell Club, Inc.

Presents its...

SHELL SHOW & FAIR

To be held at the

MOROCCO SHRINE AUDITORIUM
3800 St. Johns Bluff Road South, Jacksonville, FL

Friday June 14th 10am-4pm
Saturday June15th 10am-5pm
Sunday June 16th 10am-3pm

FREE ADMISSION
FREE PARKING
Bring the whole family and enjoy the Educational Displays of Beautiful Local and Worldwide Shells, Fossils, Shell Arts and Crafts.
Dealers will be present with great items for sale.

Sarasota Shell Show - 2013

The 2013 Sarasota Shell Show was held at the Bradenton Area Convention Center and was a huge success, with a plethora of great scientific exhibits as well as many artistic ones. There were 35 scientific entries on six long rows in the exhibit hall. Seen in the photographs are winners of the various scientific awards. In addition, there were two special gold ribbon awards celebrating the 50th anniversary of the Sarasota Shell Club. The judges, Bill Lyons and David Green (scientific), and Phyllis Gray and Pam Rambo (artistic), awarded these special ribbons to Donna Cassin for her "Fifty Shades of Gray" artistic display and Ron Bopp for his "Ed-U-Card Display" scientific entry.

Ron Bopp, Awards Chairman

"DuPont-Tremor" - Martin Tremor & Conrad Forler from St. Petersburg, Florida, won the DuPont Award for their display, "The Frog Prince: Bursidae."

"Mote Gold-Thompson" - Doug Thompson from Tallahassee, Florida, won the coveted Mote Gold Award for his display of "NW Gulf of Mexico Beauties."

"COA-Berryman" - Harry Berryman from North Port, Florida, won the COA award for his multi-cased display of "A Sampling of Philippine Cones."

"SSC Fossil Award - Bopp" - Mary Jo & Ron Bopp from Bradenton, Florida, were presented the Sarasota Shell Club's "Hertweck Fossil Award" by Donna Cassin, shell show chairman, for their display "Bermont Formation."

"SSC Small Scientific Award - Bopp" - Ron Bopp was awarded the Sarasota Shell Club's Small Scientific Award for his "Macrostrombus" entry.

"SSC Member's Award - Colegrande" - Donna Cassin presented John Colegrande (Venice, Florida) the Sarasota Shell Club's Member Award for his single shell display of an "*Argopecten irradians*."

"SSC Self-Collected Award - Thompson" - Doug Thompson received the Sarasota Shell Club's Self-Collected Award for his "Lion's Paw" display.

"Young Scientist Award - Ervin" - 14-year-old David Ervin won the Robert and JoAnn Morrison Young Scientist Award for his display, "Fifty Fantastic Florida Fossils."

The Astronaut Trail Shell Show - 2013

The Astronaut Trail Shell Show was held January 12-13, 2013. Scientific judges were Dr. José Leal, President of the Conchologists of America (COA), and Bill Lyons, COA Trustee. Arts and Crafts judges were Linda Koestel and Betty Lipe, both past COA Presidents.

We thank the judges, exhibitors, visitors, and club members for their participation, enthusiasm, and help.

Alan Gettleman
Merritt Island, Florida
Shell Show Chairman 2013

Master's Award: Robert & Alice Pace, Miami, Florida. Title: The World Wide Invader ("GAS") Giant African Snail.

Conchologists of America Award: Anne Joffe, Sanibel, Florida. Title: In Memoriam.

DuPont Trophy (this is the premier of the new 2013 DuPont design featuring a spectacular watercolor of *Scaphella junonia*): **Gene Everson**, Louisville, KY. Title: Veneridae.

Fossil Award: Ron and Mary Jo Bopp, Bradenton, Florida. Title: "Bermont Formation" at Big Island Excavation.

Shell of Show: Robert & Alice Pace, Miami, Florida *Siratus beauii* (Fischer & Bernardi, 1857).

Florida/Caribbean Shell of the Show: Robert & Alice Pace, Miami, Florida *Muricopsis chesleri* Houart, 2006.

Astronaut Trail Shell Club Premium Arts and Craft Trophy (restricted to previous winners): "All Things Nantucket" **Wendy Marshall**, Yarmouth Port, Massachusetts.

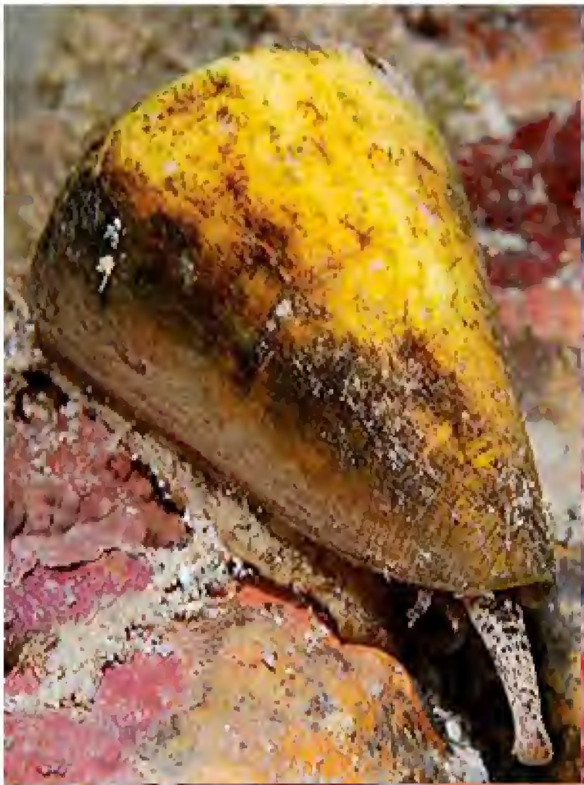
Astronaut Trail Shell Club Arts and Craft Trophy:"Sailor's Valentine" **Gerda Reid**, Marston Mills, Massachusetts.

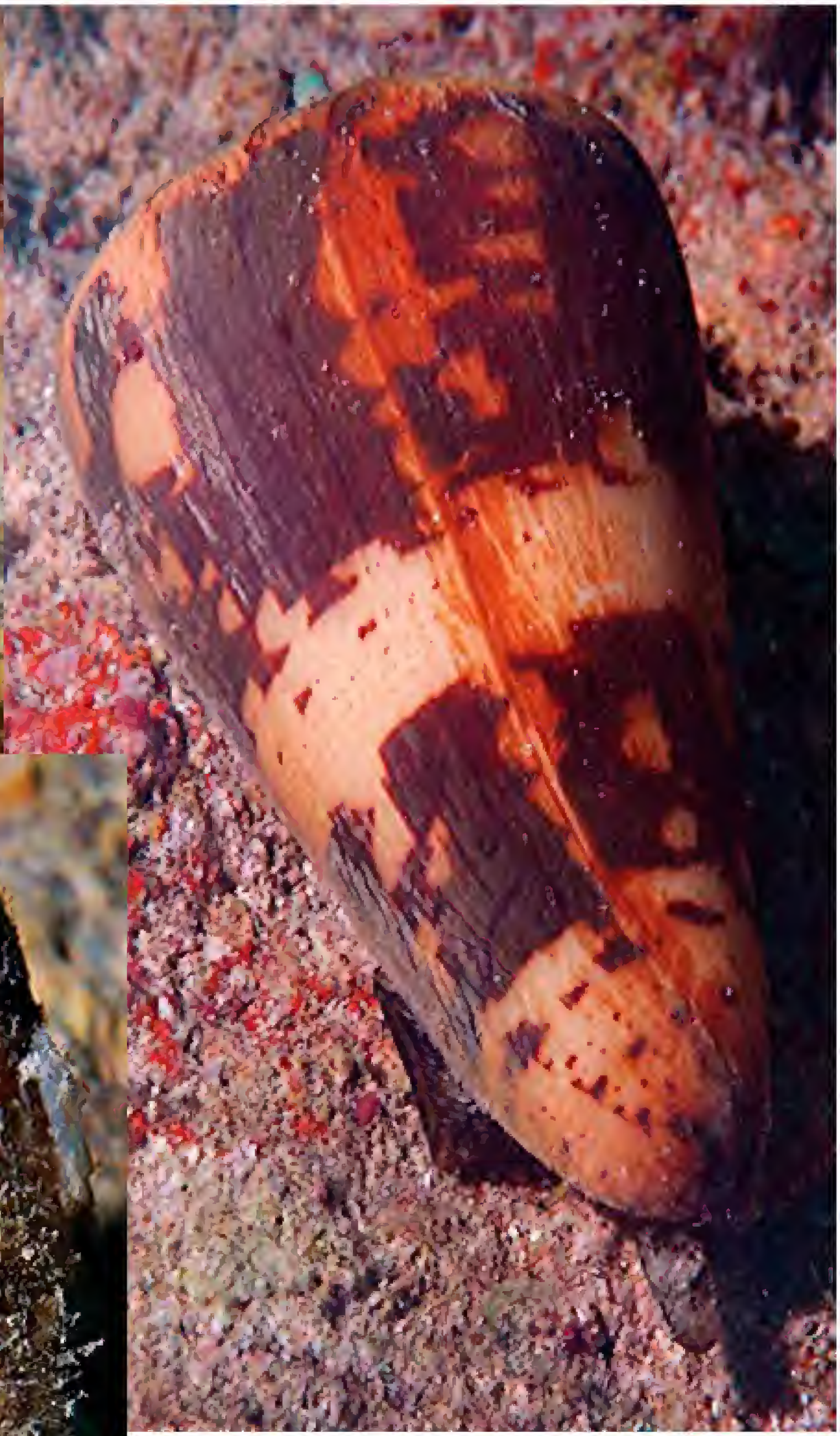
Astronaut Trail Shell Club Collectible or Antique Trophy: "Tagua-Vegetable Ivory." **Phyllis Gray**, Orlando, Flor-

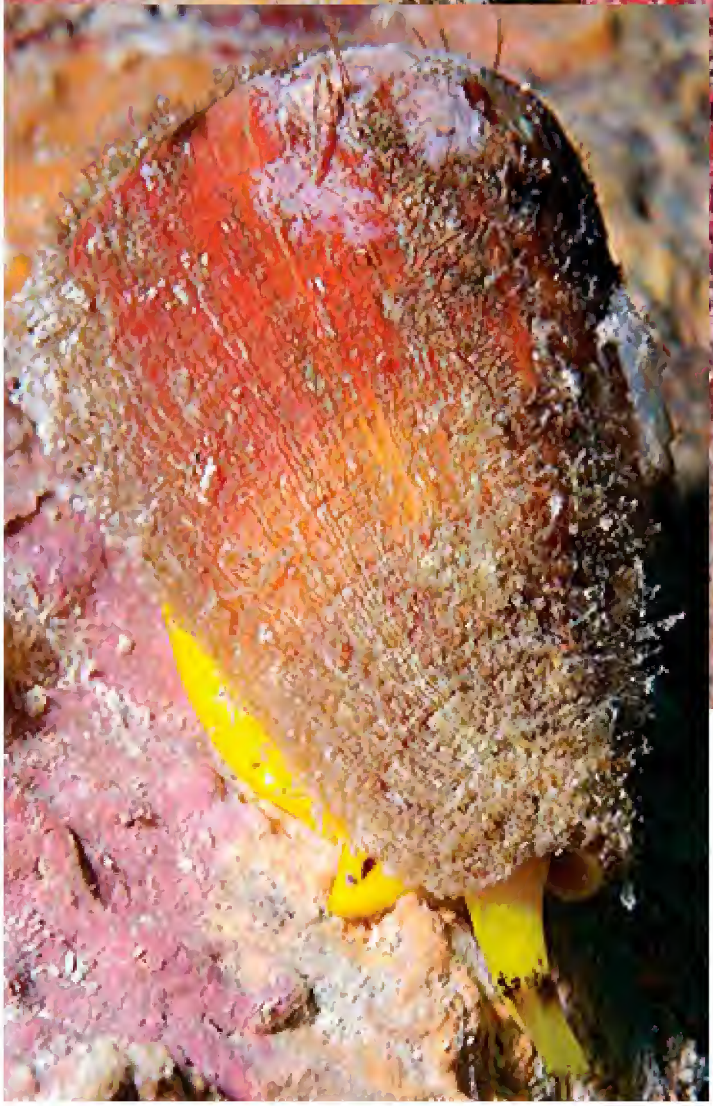
75 WONDERFUL YE
Dedicated To Those Who Are Gone, But Not

COA Award winner Anne Joffe for her presentation, "In Memoriam." This image is from the Sanibel show, but it is still Anne!

These closing pages highlight some mollusks photographed in Mauritius by Charles Rawlings in 2012. Charles has provided literally hundreds of such images, from around the world, all for use by *American Conchologist*. Because these images will probably not be used for a cover due to size considerations, I decided to share them with our readers. Enjoy...







Facing page, clockwise from top right: *Harpa costata* **(Linnaeus, 1758);** ***Harpa ventricosa*** **Lamarck, 1816;** ***Harpa ventricosa.***

Above, clockwise from top right: ***Conus lithoglyphus*** **Hwass in Bruguière, 1792;** ***Conus quercinus*** **Lightfoot, 1786;** ***Conus*** **sp. ("yellow cone").**

All images by Charles Rawlings, taken in Mauritius. I am extremely grateful for his continued support in providing COA with such superb shell images. Your magazine cover would suffer otherwise.

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American CONCHOLOGIST

Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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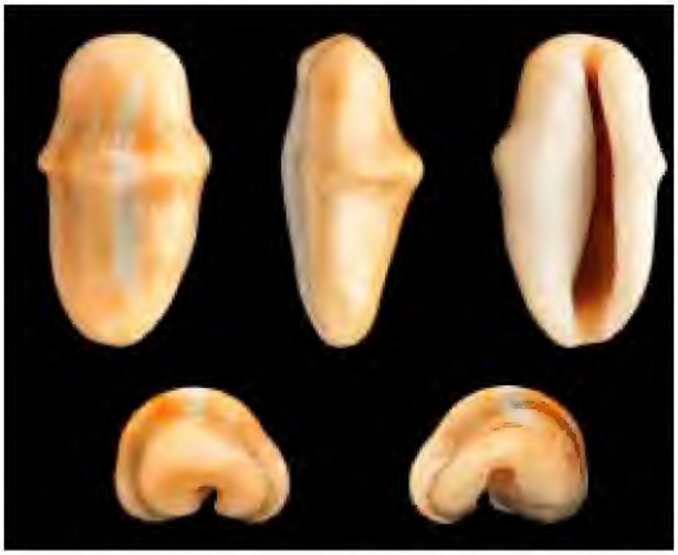
Front Cover: A pair of flamingo tongues (*Cyphoma gibbosum* (Linnaeus, 1758)) on a gorgonian in about five feet of water off Eleuthera Island in the Bahamas. This image will be featured in a presentation at the 2013 COA convention, "Shell Eleuthera with Jim Cordy." Photo and presentation by Ellen Bulger.

Back Cover: *Phalium granulatum* (Born, 1778), dredged by a scallop boat off Cape Canaveral, FL. and photographed in an aquarium. This common bland-colored shell takes on an aspect of grace and beauty when seen gliding over the substrate. Photo courtesy of Frank Frumar.

Editor's notes:

First a correction to a listing in last issue's "In Memoriam." I incorrectly listed Heather Johnson (now Pearson) instead of Paul Johnson. My fault as I misread an email. Heather is fine, but we will miss Paul.

The front cover for this issue is an *in situ* photograph of *Cyphoma gibbosum* by Ellen Bulger. In an email with the photo, Ellen stated: "No small trick, getting that shot with a D10 at a depth of about five feet and me wearing no lead. I was doing headstands and the gorgonian was swaying to and fro and I was swaying to and fro and the snails were in and out of the sun. It took, ah, um, let's say multiple tries." Thanks to Ellen, the final result is a great cover image. I also found (when discussing this image with a fellow COA member) that some of our members are unaware of how the flamingo tongue shell appears with an intact mantle. The cleaned shell sold to collectors is quite different from the strongly patterned living animal and shell. So below is an image of a 27mm flamingo tongue, cleaned and shiny, from Wikipedia, image by H. Zell.



This issue includes the results for three shell shows, Sanibel Island, Marco Island, and Antwerp. This is followed by the upcoming shell show schedule by Donald Dan. Then (and don't get confused) we have the announcement for the Philadelphia Shell Show in October and a bit on the Sarasota COA convention in July. Please don't confuse this upcoming event with something that has already taken place.

Also in this issue we have Don Cram discussing *Notocypraea* and Harry Lee talking about *Lanistes*. Both articles are a bit different from the usual fare and worth reading. We also have a couple of interesting COA grant recipient reports; interesting feedback that show our grant monies at work.

As always, thanks to our contributors and please keep those articles coming in.

Tom Eichhorst

Early taxonomic history of *Notocypraea* Schilder, 1927

Don Cram

When I first became interested in shell collecting and particularly *Notocypraea* in 1968, other than shell dealer lists, the main reference was Joyce Allan's 1956 *Cowries of World Seas,* where the taxonomy of *Notocypraea* was based solely on the papers and interpretations of Cotton and Iredale. Subsequent forays by Trenberth (1961) and Schilder (1962) further complicated an already confusing situation, where dealers and collectors named their shells based largely on opinion rather than on a sound taxonomic basis. By 1870 all of the five now generally accepted valid species of *Notocypraea* (*N. angustata, N. piperita, N. comptonii, N. pulicaria* and *N. declivis*) had been named. A sixth, *N. bicolor,* is now accepted as a variety or synonym of *N. piperita*. Apart from a few exceptions, taxonomic treatment is today relatively stable, but the history of the confusion that existed for over half a century makes an interesting story.

In 1961, Dr. F. A. Schilder, in *Archiv für Molluskenkunde*, published a controversial reclassification of the two well-known species, *Notocypraea piperita* (Gray, 1825) and *Notocypraea comptonii* (Gray, 1847). After examining shells in the collection of J. E. Gray in the British Museum, he discovered five specimens labeled in Gray's handwriting "*Cyp. piperita* Solander", that were not specifically different from the lectotype of *Cypraea comptonii* Gray, 1847. In his "Provisional Classification of the genus *Notocypraea*," *Veliger* (1964), the species *N. comptonii* (modern usage) became *N. piperita* and the species *N. piperita* (modern usage) became *N. bicolor* (Gaskoin, 1849), with *N. comptonii* becoming a synonym of *N. piperita.* This classification was listed as an alternative in Taylor and Walls *Cowries* (1975) and accepted in the second edition by Walls (1979), causing great confusion, as access to the original reasons for the change were not readily available.

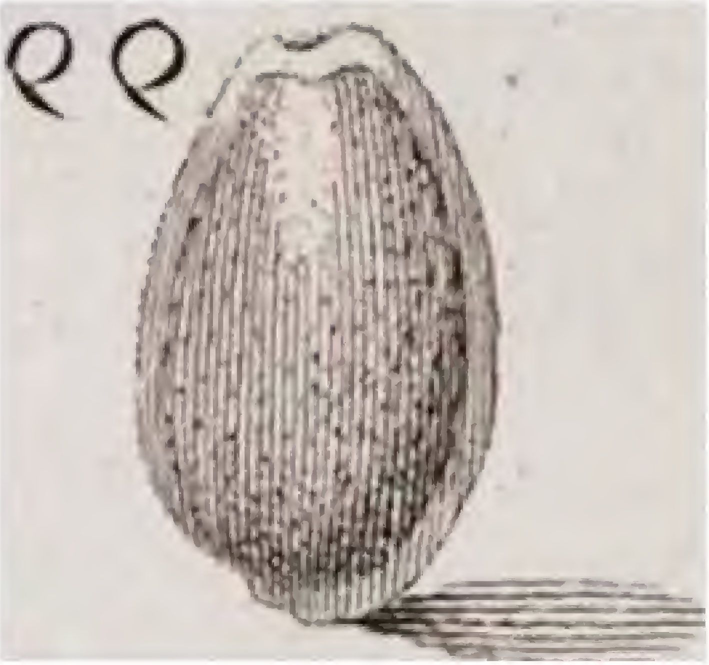
After examining photos of these five specimens, taken for me by Dr Brian Smith in 1974, I agreed with both Schilder and Griffiths that they were specimens of *N. comptonii* (modern usage). In *Australian Shell News* (1975, 11: 2) I wrote an article giving reasons for retaining existing taxonomy on the presumption of a mixed label. In 1980 during a visit to the British Museum, I personally examined and photographed these specimens, then held in the type collection along with other *Notocypraea* types. Recent examination of photos and the accompanying label of these specimens, considered by Schilder to be types, has revealed some interesting findings, prompting a detailed examination of the circumstances surrounding the description of the above mentioned species and an understanding of the conchologists who described and illustrated them over 160 years ago.

In June 1832, Gray completed part 1 of the text (*Cypraeida*e) for what was proposed to be a joint publication with G.B. Sowerby Jr. (today most often listed as G.B. Sowerby II), titled *The Conchological Illustrations or Coloured Figures of all the recent shells by G. B. Sowerby Junr. with the corresponding text of a Descriptive Catalogue of Shells by John Edward Gray , Esq., F.R.S & c.,* to be published on the first of July 1832. In a letter to Gray dated 15 September 1832, Sowerby writes: "I am glad you have sent me some copies of your three half sheets (i.e. 24 pp) but I must see you again on the subject, for it is so incorrectly printed that I cannot resolve to publish it." The dispute between Sowerby and Gray is well documented in Richard Petit's excellent publications on the Sowerbys, Gray, Perry, and Reeve and I agree with him that it was Gray's insistence about the use of names created by George Perry (whom Sowerby despised) that was the primary reason for Gray's catalogue to be abandoned and not several typographical errors (which could have been easily corrected). Sowerby published only colored figures of cowries with minimal text.

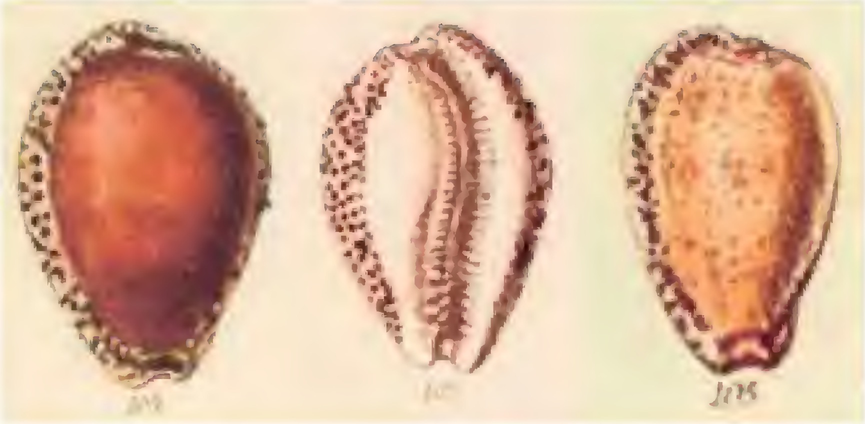
By courtesy of the Natural History Museum, London, I obtained a copy of the first part on cowries of Gray's never published *Descriptive Catalogue of Shells* dated June 1832, which contains the title page of the proposed joint publication and 22 pages of text. It revealed a fascinating insight into the Gray - Sowerby saga and reasons for the subsequent confusion created by Iredale, Cotton and Godfrey, Joyce Allan, Trenberth, and Schilder on the taxonomic placement of *Notocypraea piperita, N. comptonii* and *N. angustata.*

The *Catalogue* consists of species No's 1-176, and includes the author, a description, a locality where known and, in many cases, the cabinet from which the shell was described. If previously illustrated, the publication, as well as the plate and figure number are quoted. It is clear that Gray had seen the first 46 figures painted by Sowerby and published in 8 parts between 28 September 1832 and November 1832. The illustration numbers quoted in the *Catalogue* (e.g. Ills. f.24) match all those in the first eight parts of *Conchological Illustrations*. The species number that precedes the text is matched for *C. angustata* and *C. piperita*, but only on odd occasions for other cowries.

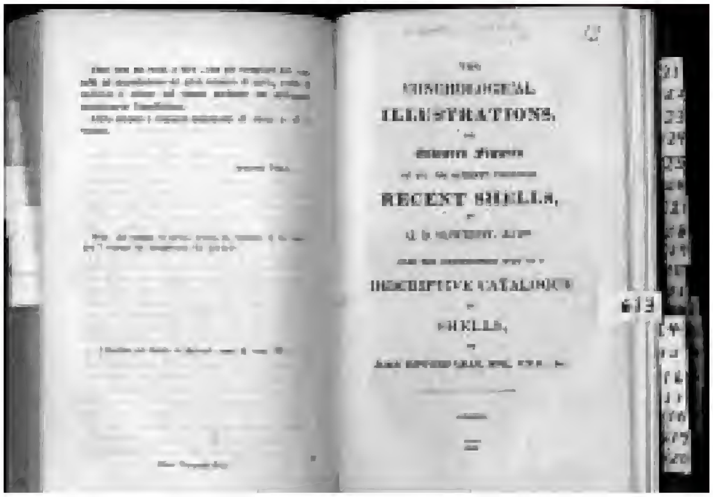
In 1825 Gray published a description of '*Cyp. piperita*.- the peppered cowry,' but no figure was given and no type specimen designated. The description begins: "*Cypraea piperita. 'Solander's Mss'*. Humphrey, Mus. Nost. Icon. *Zool Journal*, t. 6. *Inhabits* New Holland. *Mawe*. Mus. Nost. Shell ovate, oblong, pale chestnut-brown, polished, with four narrow, sometimes slightly interrupted

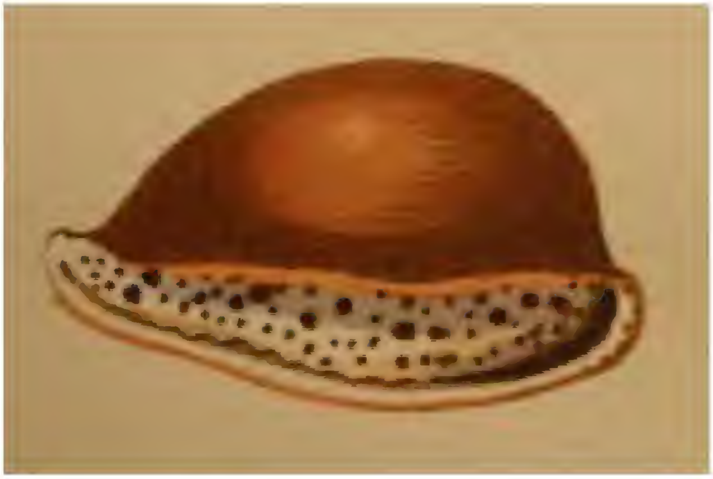


Notocypraea angustata **(Gmelin, 1791) as depicted by Gaultieri (1742) in *Index Testarum Conchyliorum,* pl.13, fig. QQ.**

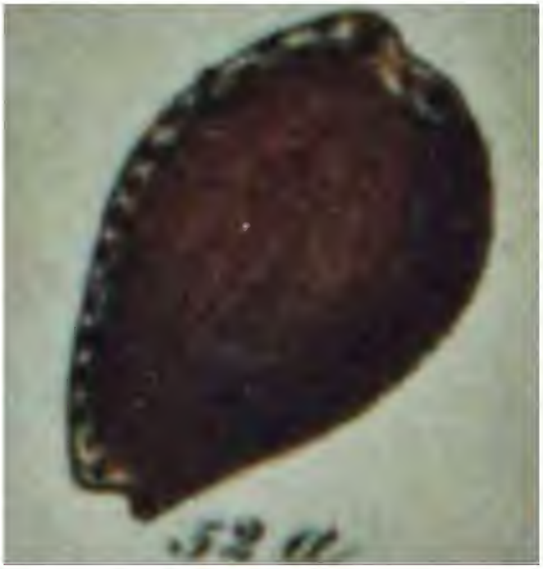


Cypraea angustata **as depicted by G.B. Sowerby II (Jr.) (1832-1841) in *Conchological Illustrations,* fig.105.**

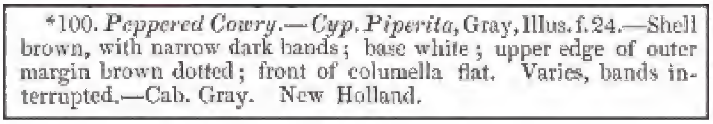




Cypraea maculata **Perry, 1811, as depicted by Perry (1811) in *Conchology,* pl. 20, fig. 5.**



Cypraea angustata **as depicted by Wood (1828) in *Index Testaceologicus, or A Catalogue of shells.* Second edition, p.83, pl. 17, fig. 52.**



*100. *Peppered Cowry.—Cyp. Piperita,* Gray, Illus. f. 24.—Shell brown, with narrow dark bands; base white; upper edge of outer margin brown dotted; front of columella flat. Varies, bands interrupted.—Cab. Gray. New Holland.

Above: Gray's redescription of *Cypraea piperita,* based upon specimens from his own cabinet that were not available to him in 1825 and mistakenly assumed to be the same species as he described in 1825. His description in the unpublished *Catalogue* more closely matches *N. comptonii.*

Left: Gray's never published *Descriptive Catalogue of Shells* dated June 1832. In it he redescribes *Cypraea piperita* Gray, 1825, "*100. Peppered Cowry.– Cyp. Piperita..."

bands, one of which is near the spire, and another in the front of the shell, and the other two about the middle of the back." After much detail, the description concludes: "I have had it from several old collections under the above name, and have therefore adopted it out of courtesy and to prevent confusion. When worn, it is pale flesh-coloured, with the bands interrupted." The shell was to be illustrated as "t.6," but another shell was used in its place. The name *piperita* was adopted from Solander's manuscripts.

In the never published *Descriptive Catalogue of Shells* dated June 1832, Gray re-described this species as "*100. *Peppered Cowry.*— *Cyp. Piperita,* Gray, Illus. f.24.— Shell brown, with narrow dark bands; base white; upper edge of outer margin brown dotted; front of columella flat. Varies, bands interrupted.— Cab. Gray. New Holland." This was the text intended for Sowerby's *Conchological Illustrations.* The five specimens from Gray's collection are labeled *Cyp. piperita Sol, Coll. Gray no.100.*

The first illustration of *Cypraea piperita* listed as species 100, fig. 24 was published on 19 October 1832 in part 4 of *Conchological Illustrations.* Curiously the specimen illustrated matched neither Gray's original description nor his subsequent description in the unpublished *Catalogue* (which was presumably of the specimens he had in his own collection), but was more like the yet to be described *Cypraea bicolor* with a ventral view resembling *C. pulicaria.* Gaskoin (1849) described and distinguished *C. bicolor* from *C. piperita* of Gray by having only three broad, irregularly interrupted bands, instead of four narrow interrupted bands indicated in Gray's original description. It is clear that Gray would have seen all of Sowerby's published illustrations up to figure 48, as all of these figure numbers (e.g. Ills. f.24) were listed in the Catalogue.

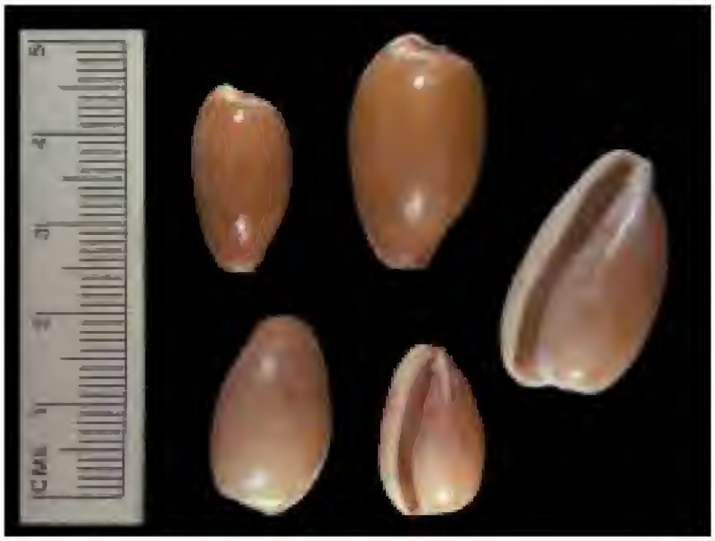
In his *Conchologia Iconica,* Reeve (1846) described and illustrated a specimen of *C. piperita* (misspelled *piperata*) as, "yellowish, back ornamented with four interrupted pale chestnut bands," later noting, "The two central bands of this species are sometimes amalgamated into one of double width."

In 1847 Gray described and figured *C. comptoniii* from Port Essington (a locality given to him incorrectly by either Jukes or Cumming). The description begins: "Shell ovate, grey brown (when young, paler zoned) with three darker bands." After further details the description concludes: "Inhabits Port Essington. My cabinet. Mr.Gaskoin, who has described several new species of this genus since the publication of my Monograph, agrees with me in considering this species as distinct, and hitherto undescribed. The two specimens I have seen differ a little in the degrees of their ventricoseness." Sowerby figured *C. piperita* (with *C. bicolor* as a variety) and *C. comptonii* in his *Thesaurus Conchyliorum* (1870).

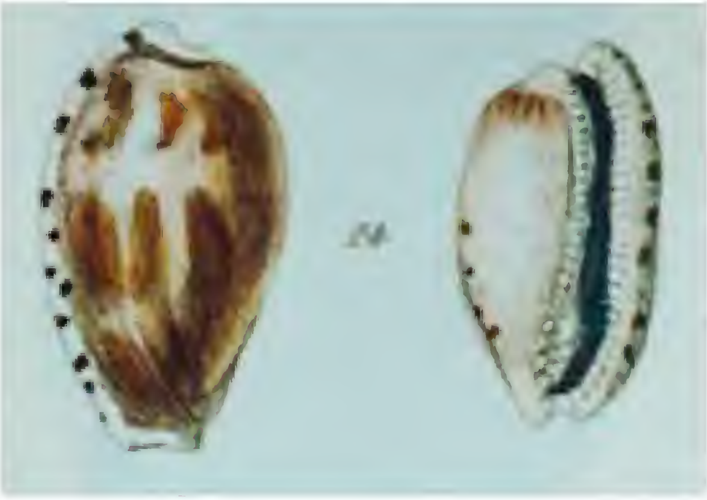
Why then are the five specimens, labelled in Gray's handwriting as *Cyp piperita Sol. Coll. Gray no.100* (illustrated here for the first time) and considered by Schilder to be type specimens of *N. piperita,* actually specimens of *N. comptonii* (modern usage)? In Gray's original description of *C. piperita,* he referred to specimens in the collections of Humphrey and Mawe. From his description of *C. piperita* in the *Catalogue,* it appears that Gray had obtained specimens for his own cabinet that were not available to him in 1825, and had mistakenly assumed they were the same species, as his description in the *Catalogue* more matches that of *N. comptonii.* The conchologists of the day would have had only beach worn specimens of uncertain origin. Beach worn specimens of *N. piperita* and *N. comptonii* are very difficult to differentiate, even today, as they are similar in size, shape, and tooth structure, and the identity can only be determined by the dorsal pattern, which can be faded or indistinct. It is then obvious that it was not known there were two species until more specimens of better quality came to light when *C. comptonii* was described by Gray in 1847. This also explains the first illustration of *C. piperita* (which Gray would have seen) by Sowerby in 1832. Amidst all the confusion at the time, the original descriptions of *C. piperita* and *C. comptonii* match the species as we know them today and the five specimens in question are merely a case of mistaken identity by the author.

The lectotype of *Cypraea comptonii* Gray, 1847 is here illustrated for the first time. The erroneous locality of Port Essington (probably given to Gray by either Jukes or Cumming), prompted Allan (1956) to follow Iredale (1935) and Steadman and Cotton (1946) to list *C. comptonii* as a form of *C. walkeri,* and was the sole reason for the species to be unnecessarily renamed *Notocypraea trenberthae* Trenberth,1961. The true type locality is more likely to be Western Port Bay, Victoria (Cram, 2006).

Notocypraea angustata (as *Cypraea angustata*) was described by Gmelin in 1791 in *Systema Naturae* ed. 13, n. 107, p. 3421. The description is brief, one line of Latin and no type locality was given. Gmelin referred to figure t.13. f. QQ. by Niccoló Gaultieri in his *Index Testarum Conchyliorum* (1742). In 1811 George Perry, in his *Conchology*, illustrated and briefly described *Cypraea maculata* as "Shell of dark brown, sides and ends white, and thickly spotted with dark spots. A native of Eastern Seas..." - illustrated as t.20 f.5. Later writers, including Gray and more recently Schilder, interpreted this illustration as a specimen of *C. angustata.* In 1825, J. E. Gray re-described the species in detail in both English and Latin in his 1925 *Monograph on the Cypraeidae.* He did not illustrate the species, but referred to specimens in the British Museum and in the collection of British collector and conchologist John George Children: "inhabits New Holland. Mus. Brit. Dom. *Children.* Nost," also citing Gaultieri, Gmelin, Schreibers, and Schroeter. Gray's description reads "*Cypraea angustata* — The Narrow Cowry. Shell ovate, reddish brown, or rarely

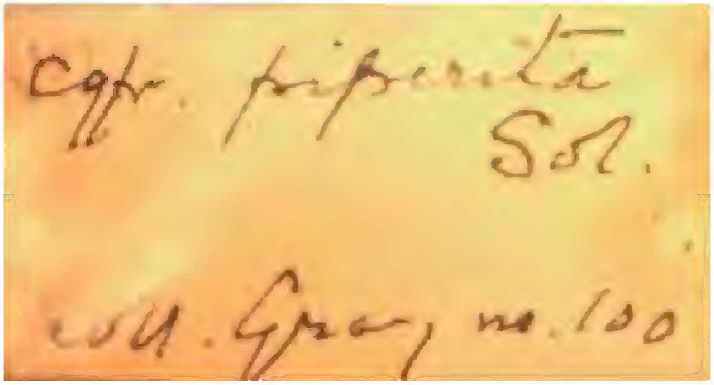


The five specimens from the J.E. Gray collection in the Natural History Museum, London, were considered by Schilder to be the type specimens of *Cypraea piperita*. They were photographed by Dr Brian Smith in 1974, and I photographed them again in 1980. My photograph is poor and not included, but the label for these specimens is shown above right. These five shells are specimens of *N. comptonii* (modern usage).



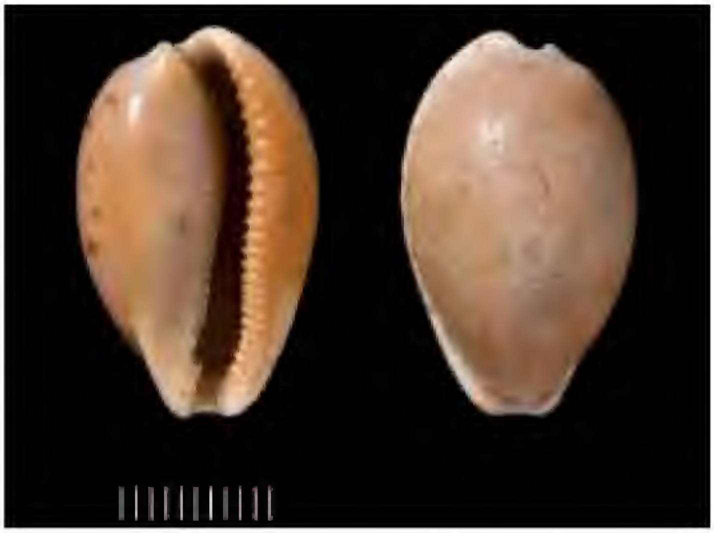
First published image of *Cypraea piperita* by G.B. Sowerby II in *Conchological Illustrations* (1832), fig.24.

Left: *Cypraea piperita* as depicted by Reeve (1846) in *Conchologica Iconica*, pl. 17, fig. 87.

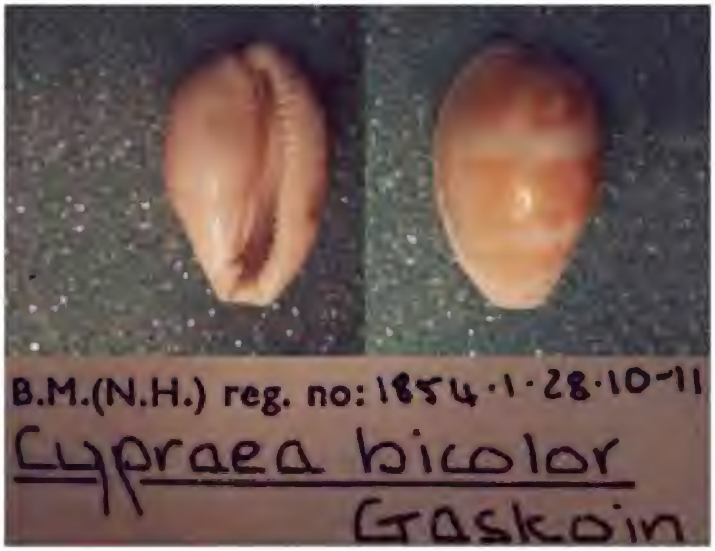


Cypr. piperita
Sol.
coll. Gray, no. 100

The label for the five specimens thought to be *C. piperita* but are specimens of *N. comptonii*. Photo by author.



***Cypraea comptonii* Gray, 1847, NHMUK Reg. No. 1951.3.29.1, lectotype. Photo courtesy of Phil Hurst, NHMUK Photographic Unit.**



***Cypraea bicolor* Gaskoin, 1849 (lectotype), locality Adelaide, from the J.S. Gaskoin collection. Photo by author.**

pale brown; the spire prominent, covered; the base convex, white; the margins slightly thickened, with small, round, black spots; that of the inner lip rounded, only slightly extended; and that of the outer rather sharply edged, with the extremities generally dark; the aperture rather large; teeth equal, small, close; columella rather concave, and rather deep, plaited nearly the whole length; in-side pale brown. Axis 10/10, diameter 7/10 of an inch. This shell has not been taken notice of by any of the French writers, although it is not uncommon in old collections. It varies sometimes, in being of a very pale yellowish brown." W. Wood (1828) in his *Index Testaceologicus, or A Catalogue of Shells*, clearly illustrates this species with Pl. 17 fig. 52, which matches Gray's interpretation of Gmelin's original description.

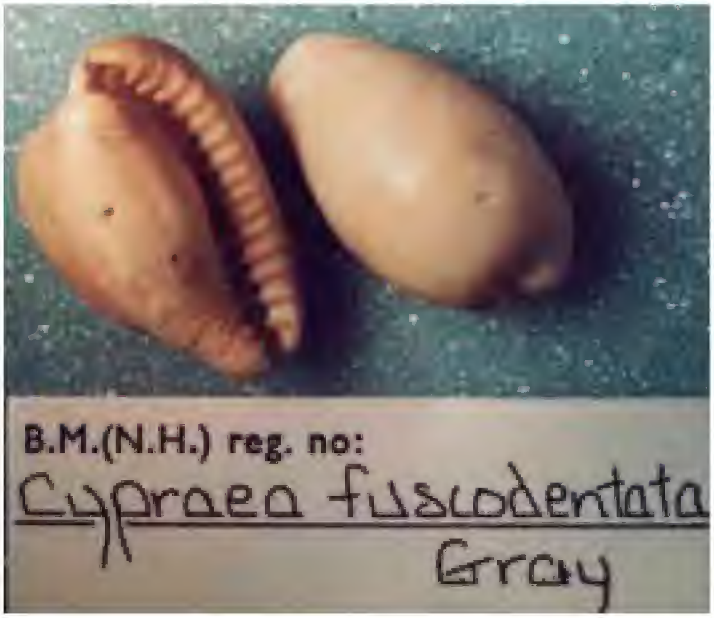
In his unpublished *Descriptive Catalogue of Shells*, which was to be the text for *Conchological Illustrations,* Gray's description reads "*99. *Quaker cowry,— Cyp. Angustata,* Gray (Gmel in pencil above) W.C. t.17, f.32 [sic - f.52]; Perry, t.20, f.8. [sic - f.5] — Shell whitish brown, minutely brown dotted; base white; margin closely black dotted; ends blackish. Worn plain brown varying in darkness.— New Holland." In his *Conchological Illustrations* (1832) G. B. Sowerby II did not initially illustrate the species but referred to Wood's figure and Gmelin's description, ignored reference to Perry, quoted Gray's *Catalogue* species number 99, but for some unknown reason ignored Gray's locality of New Holland and added the locality "South Africa." After the first eight parts issued in 1832 (illustrating all cowries that had not been previously figured), *Conchological Illustrations* concentrated on other families and resumed illustrating all other known species of cowries in parts 101-131 (published between 30 July 1836 and 15 Nov 1837). In December 1836, two specimens of *Cypraea angustata* were illustrated as fig. 105, one being a dorsal view, similar to the original illustration of *C. declivis* Sowerby, 1870, fig. 287, and the other a clearly identifiable dorsal and ventral view of a typical *C. angustata* (all illustrated). There is no doubt that confusion also existed between worn specimens of *C. declivis* and *C. angustata*, as they are of similar form and Gray appeared to relate to both in his description in the *Catalogue*.

Reeve (1846) in his "Monograph of the Genus *Cypraea*" described and figured a clearly recognizable painting by G. B. Sowerby II of a specimen from the collection of J. S. Gaskoin. In his concluding remarks Reeve stated that: "Although a species comparatively not uncommon, the specimen here figured from the collection of Mr. Gaskoin is the only one I know that is not more or less worn, or uncoated. It has a bright enameled porcelanous surface consisting of a layer of dark brown colouring matter, overlaid with a thin filmy coating of semi-opake cream colour. *Hab* New Holland." From that point it appears that most authors agreed on *C. angustata* in the form we know today, although S. R. Roberts (1885), probably noting Gray's descriptions, suggested *C. angustata* and *C. declivis* may be identical species. There was no further dispute regarding *C. angustata* until 1924, when Iredale rejected the name on the grounds that he believed that no South Australian shell could have reached Europe by 1742, the date of the publication of the description and figure by Gaultieri. Iredale also referred to Sowerby's doubtful locality of South Africa. Cotton & Godfrey in *South Australian Naturalist* (1932) accepted this argument and renamed the species *Notocypraea verconis.* The holotype Reg. No. D.10173, a worn and damaged adult specimen dead collected from St Vincent Gulf, South Australia, is in the South Australian Museum. Joyce Allen in her 1956 *Cowry Shells of World Seas* used the name *C. verconis* and, following Steadman and Cotton (1946), gave the name *C. angustata* to the South African species generally known as *Cypraea fuscodentata* Gray, 1825. In his 1962 *Sea Shells of the World,* R. Tucker Abbott also applied *C. angustata* to his illustration of the South African *C. fuscodentata*.

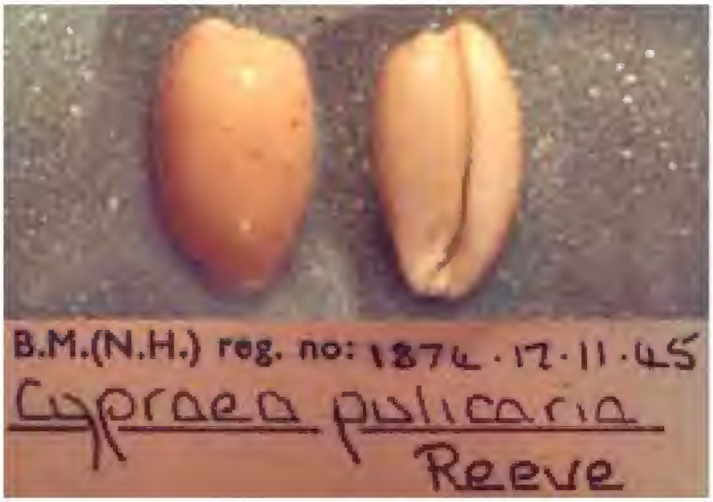
R. J. Griffiths, in a submission to the International Commission of Zoological Nomenclature in 1962 pleading the retention of the name *C. angustata* for the Southern Australian species, suggested that shells could have found their way to Europe via Dutch ships that visited the area inhabited by *C. angustata* a number of times during the seventeenth and eighteenth centuries. He also pointed out that Gmelin in his brief description used the words "maculis ad latus rufescentibus," indicating that the sides of the shell are spotted as they are in *C. angustata.* In the species *C. fuscodentata,* the sides are not spotted, therefore the assumption that this species is the basis for the name *C. angustata* cannot be correct. He then suggested that the holotype of *C. verconis* be designated as the neotype for *C. angustata*. The first illustration of *C.. fuscodentata* in *Conchological Illustrations* Sp. 104, Fig.28 is an indisputable ventral view of the species. Two specimens from the Cape of Good Hope in the type collection in the British Museum (from Gray's collection) are here illustrated.

Although I find it difficult to match the figure by Gaultieri to Gmelin or to the detailed description of *C. angustata* by Gray in 1825, it is clear from subsequent illustrations that conchologists at the time were in agreement as to the status of this species, once sufficient specimens were available for verification. In the same submission Griffiths requested the commission to use its plenary powers to suppress the specific name *C. piperita* to avoid a confusing transfer of this name to another species. A shell from Adelaide presented to the British Museum by J. S. Gaskoin was selected as lectotype of *C. bicolor* Gaskoin, 1849 (B.M.N.H. 54.1.28.11) and a shell from the J. E. Gray collection (BMNH 1951.3.29.1), labeled Port Essington, was selected as a lectotype of *C. comptonii* Gray,1847.

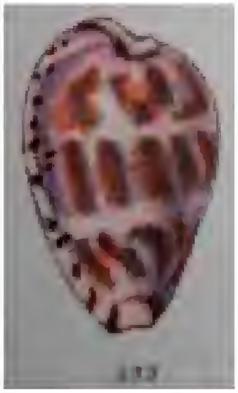
In November 1981, Vol. 38, pt. 4, Opinion 1197, the commission rejected the argument for suppressing the

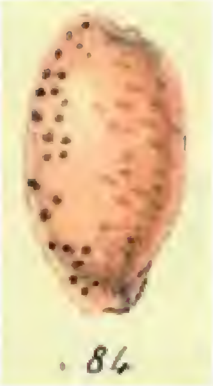


Type specimens of *Cypraea fuscodentata* Gray, 1825, from Gray's cabinet. Photo by author.



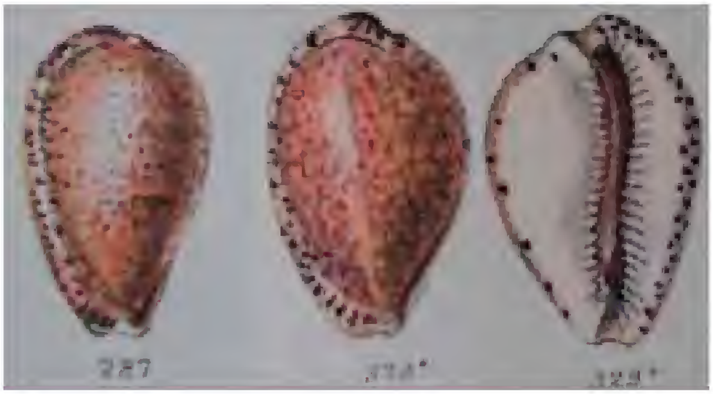
***Cypraea pulicaria* Reeve, 1846, (type) in NHMUK. Photo taken Oct. 1980 by author. Atypical specimen lacking bands. Label reads, "Collection of Mrs. L. Taylor (x Gaskoin)." Description corrected by Gaskoin in 1849. See Cram (2003).**





Above left: Additional illustration of *Cypraea piperita* var bicolor from the collection of Hugh Owen, pl. 37, *Thesaurus Conchyliorum.*

Above right: Original illustration of *Cypraea pulicaria*, Reeve, 1846 in *Conchological Iconica*, pl.17, fig. 84.



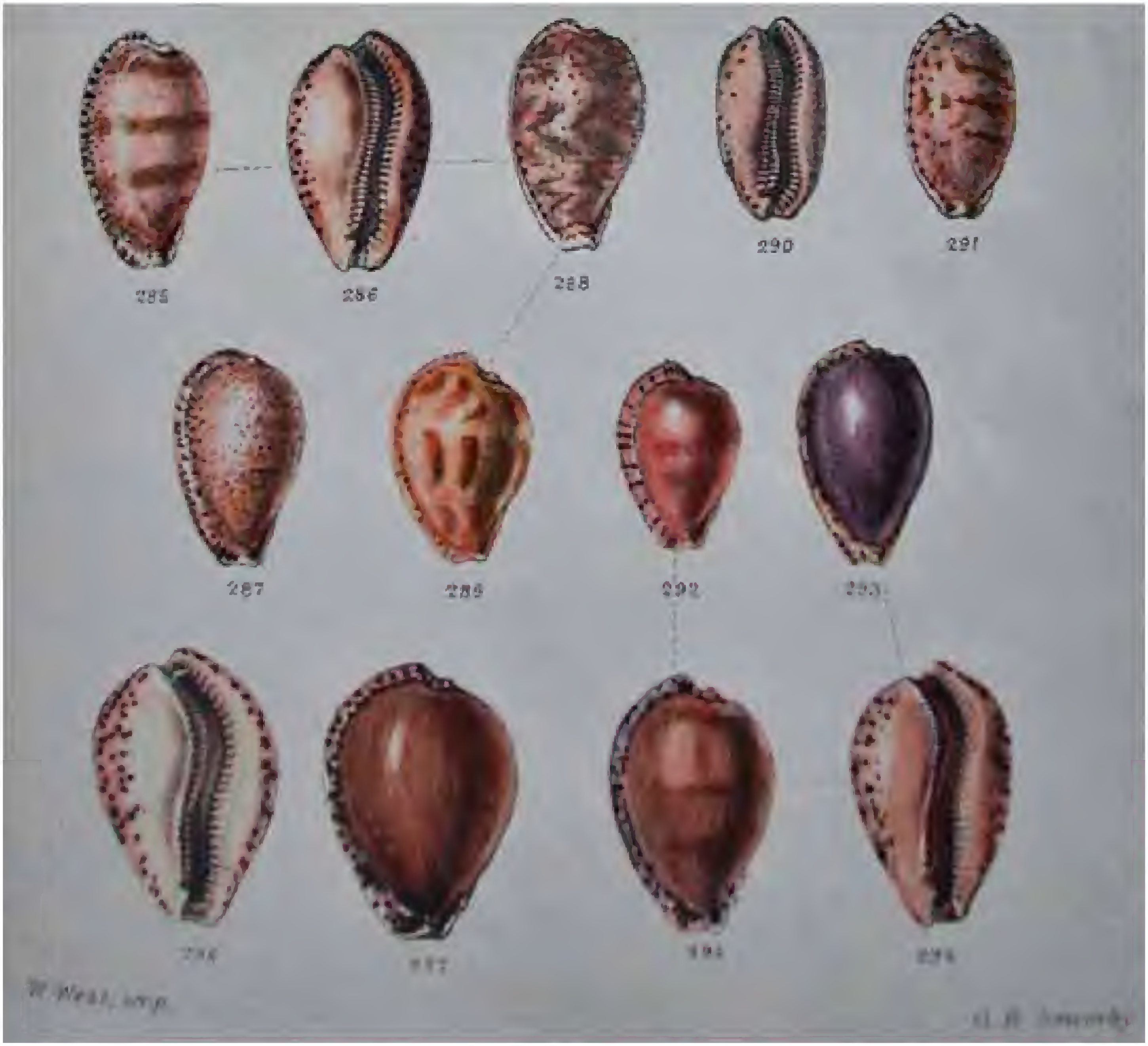
The original illustrations of *Cypraea declivis* by G.B. Sowerby II in *Thesaurus Conchyliorum* (1870), pl. 28, fig. 287 & pl. 30, fig. 328. Note the similarity of fig. 287 to the dorsal view, fig. 105, of *Cypraea angustata* in Sowerby's 1832 *Conchological Illustrations* (page 5).

name *C. piperita* and placed *C. piperita* Gray, 1825, *C. comptonii* Gray, 1847, *C. bicolor* Gaskoin, 1849, and *C. angustata* Gmelin, 1791, on the official list. The specific name *verconis* Cotton & Godfrey was placed on the Official Index of Rejected and Invalid Specific Names in Zoology with the name number 1093, but they listed Cotton & Godfrey's holotype of *C. verconis*, selected by Griffiths, to be interpreted as the neotype for *C. angustata.*

The type specimen of *C. pulicaria* Reeve, 1846, originating from the collection of J. S. Gaskoin, is illustrated here showing atypical spotting and lack of transverse bands. The original description by Reeve was corrected by Gaskoin in 1849 (Cram, 2003).

Acknowledgements

My thanks to Kathy Way and Andreia Salvador of the Natural History Museum, UK, for providing copies of rare text and also images by Gray and Gualtieri used in this article. Thanks also to Phil Hurst of the NHMUK photographic unit for reproducing stored images of the lectotype of *C. comptonii,* Chris Rowley of the Marine Invertebrates Department of Museum Victoria for access to images from the rare book library, Robert Burn Honorary Associate, Museum Victoria, who has been most helpful with his knowledge of taxonomy and his extensive library, and Platon Vafiadis for reading the manuscript and making many useful suggestions.



***Thesaurus Conchyliorum* Sowerby 1870, part of plate 28 showing all known *Notocypraea* species: fig. 285 & 286 - *N. piperita*, fig. 287 - *N. declivis*, fig. 288 & 289 - *N. piperita* var *bicolor*, fig. 290 & 291 - *N. pulicaria*, fig. 292, 293, 294, & 295 - *N. comptonii*, fig. 296 & 297 - *N. angustata*.**

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RTA, riding to the rescue, rights a wrong; Röding redivivus

Harry G. Lee

The aquatic prosobranch snail genus *Lanistes*, with about 20 species living in Africa and Madagascar, is grouped with the applesnails in the family Ampullariidae. It differs from the other ampullariid genera in appearing to have a sinistral shell. With its apex toward the observer, expansion of the coil proceeds counterclockwise, the same geometry as that of the shell of a sinistral snail (Robertson, 2003); however, the animal of snails of this genus has the same dextral asymmetry as its confamilial relatives. It is not a mirror image thereof as one might expect! *Lanistes* has a peculiar type of spiral growth (chirality) termed ultradextral, or hyperstrophic pseudosinistral often depicted as shown in **fig. 1**; aperture rightward (following the convention used by Robertson (2003:6)). The conchologist is compelled to view the axis of growth as diametrically opposite that of the applesnails, and for that matter essentially all other dextral snails. Although there is no absolute "up" or "down" in shell growth, specialists have found the concept "upside-down" convenient for the understanding of this pattern of shell growth **(fig. 1)**. More precise is the term "hyperstrophy," vs. "orthostrophy," the latter being applied to the prevailing right-side-up topology seen in all applesnail, volute, cone, and cowrie species as well as all members of the predominantly sinistral family Triphoridae. There are a few other examples of hyperstrophy, including two large groups of Paleozoic marine snails, certain sea butterflies, and as a transitory condition of the larvae of many marine gastropod taxa.

Recently Allen Aigen, a Staten Island shell-collector, paleontologist, and frequent contributor to the University of Georgia-hosted Conchologists of America list-serve known as Conch-L, let me know he had collected some living left-handed snails in the Nile River during a visit to Cairo in December, 1989. I had been to that ancient city seventeen summers earlier and, despite gathering plenty of gastropods in my parasitological studies, hadn't come across anything quite like the described shells. So I took Allen up on his offer to send me a couple,

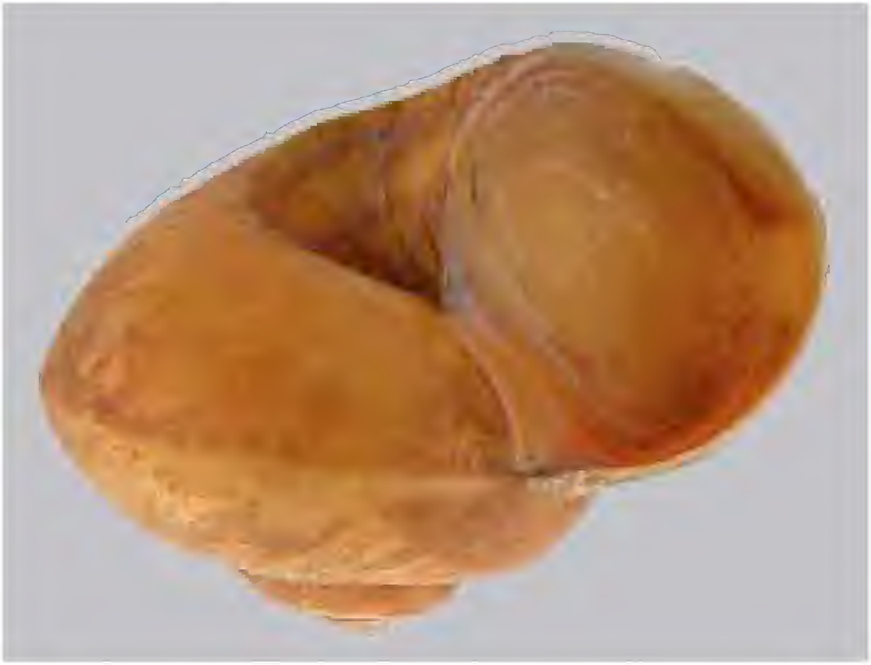
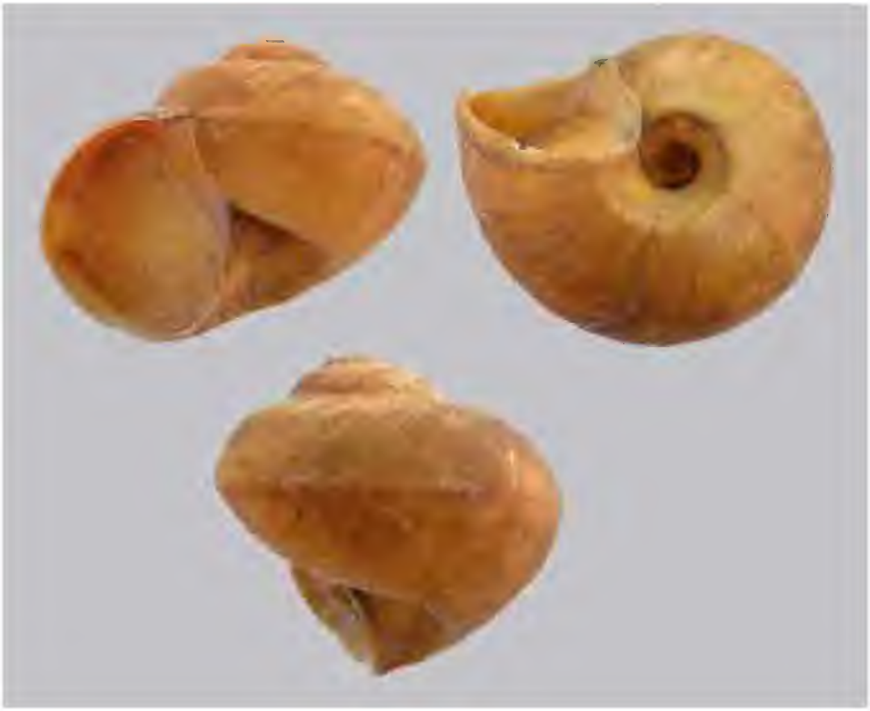


Fig. 1 (above) - *Lanistes boltenianus* (Röding, 1798) appears to be a sinistral or left-handed shell with the spire pointed downward. In fact, it has dextral or right-handed coiling, but the coils are "upside down." It is as if a dextral shell with the spire pointed upwards had the spire pulled down through the spiral plane of the shell.

Fig. 2 (below) - One of the specimens from Allen Aigen showing the keels and the false appearance of sinistrality.



which had somehow acquired the identification "*Lanistes bolteniana* (Chemnitz)" and exhibited two distinctive spiral keels, one bordering the funnel-shaped umbilicus and the other on the periphery save the latter majority of the adult body whorl. The larger of Allen's two specimens is depicted to the right **(fig. 2)**.

The name Johann Hieronymus Chemnitz (1730-1800) applied, "Die Boltenische Linksgewundene Landschnecken [the Boltenian Left-coiled Landsnail], *Helix terrestris bolteniana contraria ...*" Chemnitz, 1786: 111) is unavailable for the purposes of formal taxonomic nomenclature as all but one of the author's works[a] were inconsistent in their use of the binominal system (ICZN, 1944; 1954; 1987: 319), this name being a classic exemplar. Not long after, countryman Peter Friedrich Röding (1767-1847), while anonymously penning the catalogue of the shell collection belonging to Dr. Joachim Friedrich Bolten (1718-1796), provided it with an available name, *Planorbis*[b] *boltenianus* (Röding, 1798: 73; sp. no. 933, see http://www.biodiversitylibrary.org/item/41571#page/93/mode/1up).[b] The sole indication, "Martini" [error for Chemnitz], 1786: pl. 109, figs. 921, 922 **(fig. 3)**. This is also the type figure of *Helix terrestris bolteniana contraria...* as cited above. It appears to have a keel at the periphery and around the umbilicus just like Allen's shells. Chemnitz also cited a very similar illustration (Martini, 1776: pl. 2, fig. 24, who mentioned that his specimen also came from Dr. Bolten's collection) and two other indications (d'Argenville, 1780: pl. 63, fig I.3; **(fig. 4)**), which has a nearly concealed umbilicus, and Favart d'Herbigny (1775, vol. 3: 466-467), who vaguely described a "unique" shell consistent with the Martini specimen. According to Martini (1776: 424), Spengler, on Chemnitz's authority, reported it originated in the marine waters of Guinea (west Africa), so it appears the latter conchologist changed his mind over the ensuing decade, after which he indicated a land snail of unknown geographic provenance. In Martini's footnotes reference was also made to a figure in Gualtieri (1742: Tab. 2, lit. T, **(fig. 5)**) also cited by Davila [1767: 438-439]), which appears to be a good likeness of figs. 921, 922. Both the earlier authors treated it as a land snail. Although none of these citations has any direct bearing on the Röding taxon, they provide a glimpse at the uneven scientific rigor with

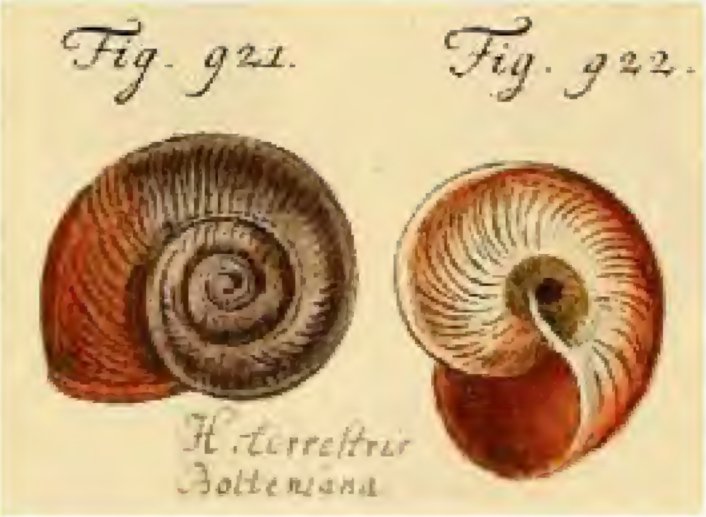
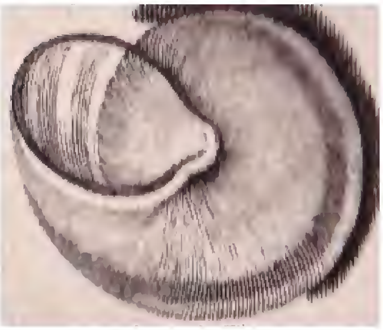


Fig. 921.
Fig. 922.
H. terrestris
Bolteniana

Fig. 3 The Chemnitz illustration quoted by Röding in *Museum Boltenianum* (1798).

Fig. 4 The image from d'Argenville (1780) with a nearly concealed umbilicus.



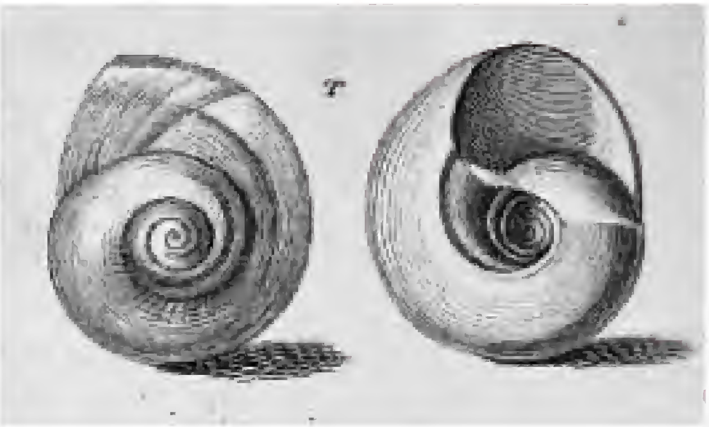


Fig. 5 The figure by Gualtieri in his *Index testarum conchyliorum...* (1742).

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[a] The unique exception relating to Chemnitz's species-level taxa is a 1777 paper describing *Conus gloriamaris*; see http://www.listserv.uga.edu/cgi-bin/wa?A2=ind0812E&L=conch-l&P=R2320 and bibliography. Certain genus-level taxa may be protected from the ICZN actions cited above (Polaszak, 2004).

[b] Two interesting points here: (1) As can be seen from the URL provided, there is no entry in the catalogue for the number of specimens of *Planorbis boltenianus*! Apparently Dr. Bolten divested himself of the specimen(s) before the catalogue was published. Perhaps the Chemnitz shell was the same as that of Martini, and, as d'Herbigny wrote, "unique" in a sense. (2) *Planorbis* Röding, besides being a heterogeneous (more aptly, polyphyletic) assortment of aquatic prosobranchs and pulmonates, both terrestrial and aquatic, is unavailable due to junior synonymy with *Planorbis* Müller, 1774.

which contemporary workers were obliged to deal.

Forty years later, and apparently unaware of Röding's action, Deshayes and Milne Edwards (1838: 536, 537; sp. 8) treated *Ampullaria carinata* "Lamarck"[c] [referring to Lamarck (1819: 176) but actually dating from *Cyclostoma carinatum* Olivier (1804: 39, pl. 31, figs. 2A, 2B)]. In a long footnote and in the chresonymy, the Lamarck taxon was deemed synonymous with the Chemnitz appellation, and the authors coined "*Ampullaria bolteniana*"[c] for the species. Lamarck had placed his species "en Egypte dans l'eaux du Nil," the type locality actually being a canal in Alexandria (Olivier, 1804). A number of ampulariids in the Lamarck collection ("Mon cabinet;" *Idem*: 537) have survived to at least the mid-Twentieth Century in the Geneva Museum, but this shell(s) was apparently not one of them (Mermod, 1952). This Chemnitz/Olivier/Lamarck/Deshayes (and Milne Edwards) synonymy was supported by Roth (1839: 26), and Jay (1852: 281) as well as Anton (1839: 50) and Pfeiffer (1840: 82), both of the latter treating "*Ampullaria bolteniana* Deshayes"[c] as valid. These four workers were but the earliest of many who likewise acknowledged the identity of the two taxa while overlooking Röding and the "Museum Boltenianum."

Fortunately the identity of *Cyclostoma carinatum* Olivier, in contrast to the Chemnitz figure and Lamarck specimen(s), has been clarified by exposition of the type material. Tillier and Mordan (1983: 157; pl. 5, **(fig. 6)**) reported on five syntypes (the figured one was not designated as the lectotype in anticipation of a more extensive revision) with a label probably written by Olivier making reference to the original figure. "Four probable syntypes relabeled '*Ampullaria bolteniana* Fér."[d] completed the suite of nine [? five] specimens at le Muséum National d'Histoire Naturelle, Paris.

Röding and his *Museum Boltenianum* might still be languishing in anonymity/obscurity if the American Association for the Advancement of Science had not enabled Sherborn and Sykes (1906) to reproduce the opus. In providing the first index for the work, Dall (1915) made it clear that therein was a treasure trove of available names, many of which were poised to be employed as senior synonyms. The malacological community treated Dall's admonition as a bitter pill, and, even with the later formal attribution of authorship and declaration of availability of its nomina (ICZN, 1956, 1958), was slow to incorporate Röding's destabilizing "innovations." As best as I can determine, the indication of the priority of *Planorbis boltenianus* Röding over *Cyclostoma*[e] *carinatum* Olivier had to wait nearly two centuries to receive notice (Abbott, 1989: 194; **(fig. 7, with caption)**). Perhaps RTA's collaboration in the Richardson *et al.* (1979) investigation, which work tied the actual Chemnitz figure to the Röding name, was instrumental in Tucker making this long overdue and fitting connection (mistaken familial assignment notwithstanding).

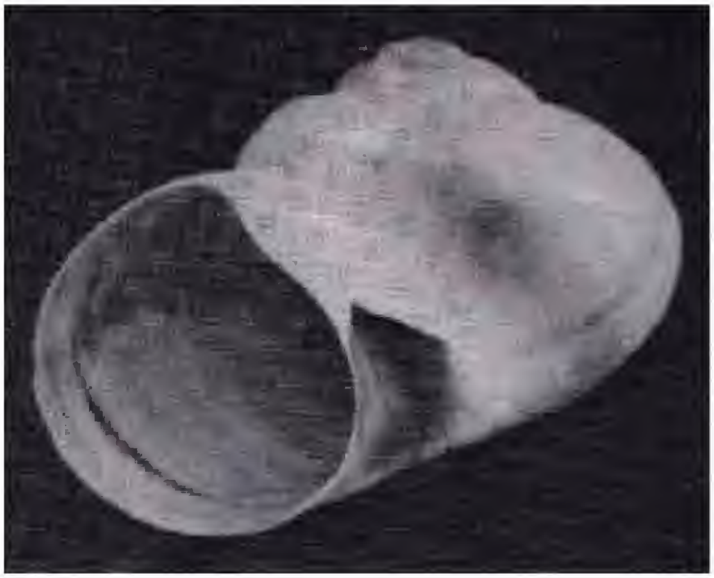

Fig. 6 One of five syntypes in le Muséum National d'Histoire Naturelle, Paris, reported by Tillier and Mordan (1983).

One particular reason the synonymy of the species discussed above is important is that it relates to the very foundation of their genus. Monfort (1810, vol. 2: 122-124)

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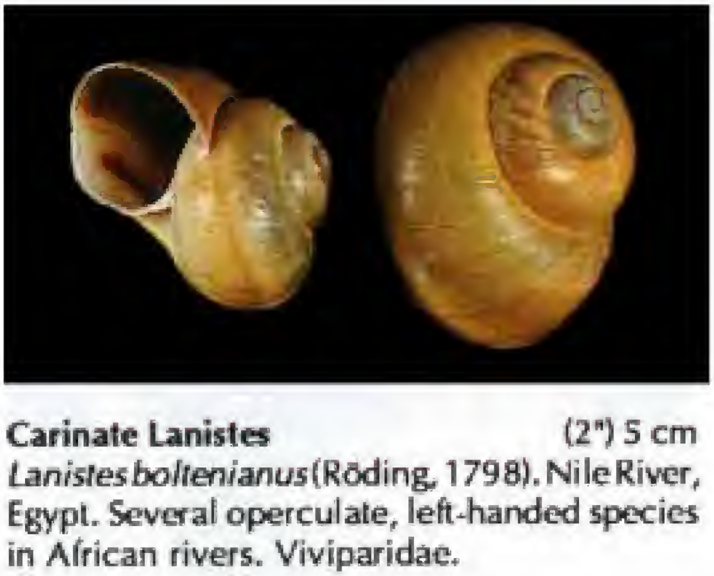
[c] Another pair of points: (1) The co-opting of authorship of a species-level taxon by a reviser incidental to his assigning it to another genus, with or without the replacement of the species epithet, was customary, especially in the French School, at the time. Also at that time the *Conchylien-Cabinet* was considered an available work. Today such nomina, if available, are simply regarded as junior objective synonyms, as in the final paragraph of this essay. (2) Eponymous species epithets were often capitalized in those days; today lower case is mandated (ICZN, 1999: Article 5.1)

[d] I could find no evidence that this binomen is an available Férussac name, but it is likely le Baron was referring to the same Chemnitz figures as Herr Röding, albeit several years later, as he wrote this label(s).

[e] In a twist vaguely reiterative of the central theme of this essay, *Cyclostoma* Lamarck (1799: 74), type species: *Turbo scalaris* Linnaeus, 1758 by original monotypy, is an objective junior synonym of *Epitonium* Röding, 1798 based on the same type species, subsequently designated by Suter (1913: 319), an action surely facilitated by Sherborn and Sykes' (1906) *Museum Boltenianum* reproduction. Various authorities applied *Cyclostoma* of Lamarck, 1799, or other authors' homonyms thereof, to an assortment of terrestrial prosobranchs over the years.



Carinate Lanistes (2") 5 cm
Lanistes boltenianus (Röding, 1798). Nile River, Egypt. Several operculate, left-handed species in African rivers. Viviparidae.

Fig. 7 The image from Abbott's *Compendium of Landsnails* (1989), "reviving" the Roding name and settling a couple centuries of confusion.

named *Lanistes* and treated Laniste (his French translation thereof) as masculine. Since he didn't indicate any inconsistency in gender, the taxon remains masculine under the provision of Article 30.1.4.4 of the *Code* (ICZN, 1999). The monotype is, natch, *Cyclostoma carinatum* Olivier, 1804, which Montfort unnecessarily renamed *Lanistes Olivierii*[c] [sic; sic]. The figure Montfort provided is either quite poorly drawn or does not depict the Olivier species, but that's another matter and irrelevant to the typology of his new genus, *Lanistes* (ICZN, 1999: Article 67.2).

Failing memory and all, when it strikes my fancy, I create an extra data slip to serve as a terse commemorative of the assorted quirks involved in the identity of the corresponding lot. Consequently I have now penned a second label for Allen's two shells: **"*Lanistes boltenianus* (Röding, 1798) [as *Planorbis*; after Gualtieri, 1742, Davila, 1767, Martini, 1776, Chemnitz, 1786, etc.] + *Cyclostoma carinatum* Olivier, 1804 (type species *Lanistes* Montfort, 1810 by original monotypy) + *Lanistes olivierii* [sic] Montfort, 1810 + *L. olivieri* auctores [unjustified emendation] + *Ampullaria carinata* Lamarck, 1819 + *Ampullaria bolteniana* Deshayes and Milne Edwards, 1838, etc. Ecology: marine → terrestrial → aquatic; taxonomy: Helix → Wentletrap → Applesnail kin."** This little note-to-self vindicates the author who gave these shells nomenclatorial legitimacy and tracks the refinement of their position in the natural order of things from pre- (and otherwise non-) Linnaean opera to present while commemorating the dilatory upheaval of two centuries of unjust nomenclatorial hegemony.

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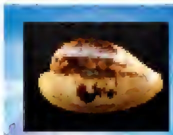

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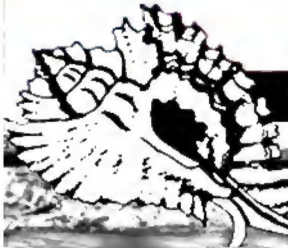

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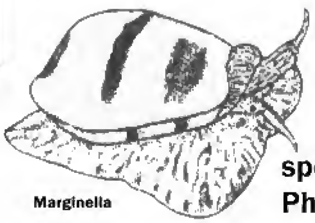

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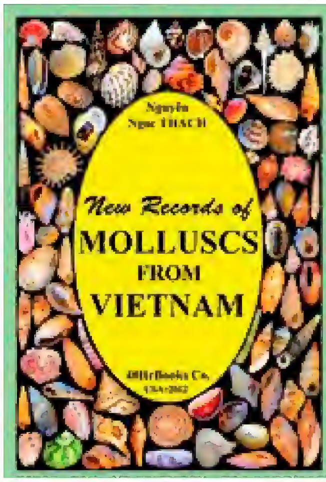

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COA Grant Summary (2012 award) for: Discovering visual capabilities of the unique eye in the scallop, *Argopecten irradians*

Anita Krause

Scallops are marine bivalves that contain multiple, mirror-type eyes. Scallops are unlike many other animals because each eye contains two different retinas, the distal and the proximal retina. The visual pigments, or opsins, are a group of light sensitive G-protein coupled receptors and are required for vision in all animals. Thus far, only one opsin has been identified in either scallop retina (Gq-opsin and Go-opsin are located in the proximal or distal retina, respectively), suggesting the images formed by the scallop eye are monochromatic. While isolating the Gq-opsin gene from the eye, I discovered a second Gq-opsin copy, which is present in multiple scallop species. *If* the two opsins are housed in the same retina *and* they differ in wavelength absorbance (function), then this study will provide preliminary evidence for dichromatic (color) vision in scallops.

In my PhD dissertation, I will determine if scallops have dichromatic vision by completing two aims. **Aim 1. Confirm both Gq-opsin copies are used for light absorption (functional proteins) in the same retina of *Argopecten irradians*** by demarcating the spatial expression patterns of Gq-opsins. To do this, I will perform *in situ* hybridization to identify the location of expression for both Gq-opsin genes. **Aim 2. Determine if the function differs between the two opsin copies in *A. irradians*** by either a direct test of function using assays that quantify maximum wavelength absorption or indirectly by taking a bioinformatics approach to model and compare protein structures of the two Gq-opsin copies. This latter approach, and a portion of the spatial expression study, were completed within the year and is what I report here.

The Conchologists of America Award was applied to the direct purchase of *in situ* hybridization reagents and kits to address Aim 1. To identify where each Gq-opsin was expressed, I performed *in situ* hybridization on the eye and surrounding ocular tissue using gene-specific probes. Positive expression was observed in the eye for both Gq-opsin genes, while expression of Gq-opsin1B was only in the nerves of the mantle tissue.

This first round of *in situ* hybridization confirmed differential expression across tissue types. When multiple *in situ* runs are completed, this project will help me identify and compare spatial expression of ocular and extra-ocular tissues.

Argopecten irradians **(Atlantic bay scallop) showing its numerous blue eyes. Photo by Rachael Norris and Marina Fruedzon at the Marine Biological Laboratory, Woods Hole, Massachusetts (Wikipedia Commons).**

I completed Aim 2 using protein folding and threading to qualitatively estimate if there were differences in Gq-opsin gene wavelength absorption in *A. irradians*. **The preliminary evidence provided by tertiary structure modeling suggests both Gq-opsin1A and Gq-opsin1B are able to absorb and respond to wavelengths of light and are different in what wavelengths of light they are responsive to.** Because of changes in amino acids at key positions in the protein, this suggests the two genes are functionally different. For the next step, I will confirm functional differences by quantifying the wavelength absorption.

Most animals employ unique opsin types for each function, one type for ocular photosensitivity, and another type for extra-ocular perception. This will be one of the first studies to identify an opsin type that has been co-opted for two different photosensitive functions, used in both ocular and extra-ocular tissues. Functional data will complement the spatial expression patterns and molecular data to provide evidence for photosensitive tissues and the wavelengths of light absorbed by specific retinas, in turn providing evidence to address my ultimate objective of distinguishing whether the scallop is able to visually detect contrast (dichromatic vision).

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Siphonaria limpets from southern South America

Marina Güller

The false limpets of the genus *Siphonaria* comprise a group of pulmonate, algae grazing gastropods, which typically live on rocky intertidal substrates (Fig. 1). A literature search turns up a great diversity of the group in the southern tip of South America, from where a total of 13 nominal species were listed. Out of these, eight nominal species were originally described from this area: *Siphonaria lessonii* Blainville, 1827, from Malvinas (Falkland) Islands; *S. lateralis* Gould, 1848, from Cape Horn; *S. laeviuscula* Sowerby, 1835, and *S. anornata* Paetel, 1889, from Valparaíso; *S. lineolata* Sowerby, 1835, from Chiloé Island; *S. magellanica* Philippi, 1856, from the Magellan Strait; *S. laevis* Philippi, 1846; and *S. tenuis* Philippi, 1860, from the Chilean coast. *Siphonaria tristensis* Sowerby I, 1823; *S. antarctica* Gould, 1852; and *S. redimiculum* Reeve, 1856, with unknown type localities, were regarded as proper to the southern tip of South America. Two additional species: *Siphonaria concinna* Sowerby I, 1823, and *S. macgillivrayi* Reeve, 1856, from Africa and the Indian Ocean respectively, were also reported from this area.

Hubendick (1945), on the basis of the anatomy of the genital system, provided evidence on the existence of at least three *Siphonaria* species in the area: *Siphonaria lessonii, S. lateralis* and *S. macgillivrayi*. *Siphonaria lessonii* is the most studied South American species. Previous studies pointed out the great morphological variability and wide distribution of this species (Olivier and Penchaszadeh, 1968; Tablado *et al*., 1994; Tablado and López Gappa, 2001). To date, however, it has not been investigated whether all these morphological variants, from such a wide range of distribution, actually correspond to a single species or a species complex. In addition, the relationships of *Siphonaria lessonii* with the other nominal species described or reported for the area have never been studied in detail.

The present scenario suggests that either: 1) there is actually a high number of siphonariid species in the area, but the lack of details in original descriptions does not allow them to be distinguished; or 2) the high species diversity reported for the area is associated with the existence of some rare or locally distributed species; or alternatively, 3) the high number of species is just an artifact, originating from the fact that some species were described more than once under different names.

This taxonomic puzzle was addressed as part of a research project partially funded by a COA grant. The particular objectives of this study were:

1) To re-evaluate the diversity of siphonariids occurring in southern South America from Brazil to Tierra del Fuego in

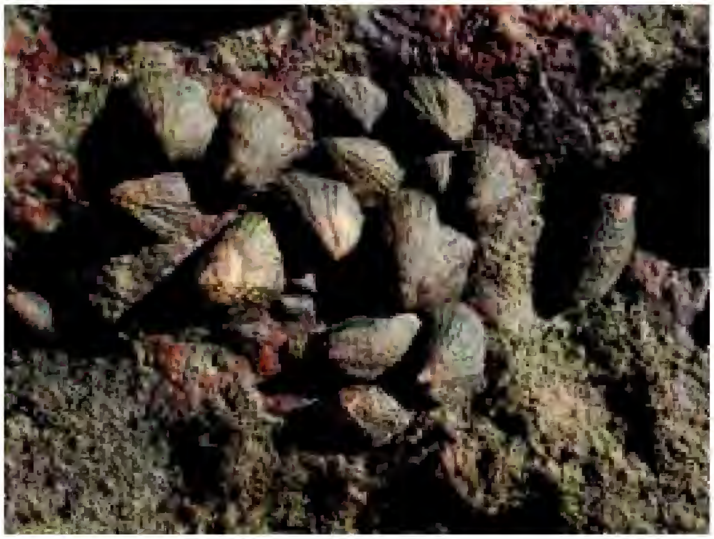

Fig. 1 *Siphonaria lateralis* living on intertidal rocky substrate.

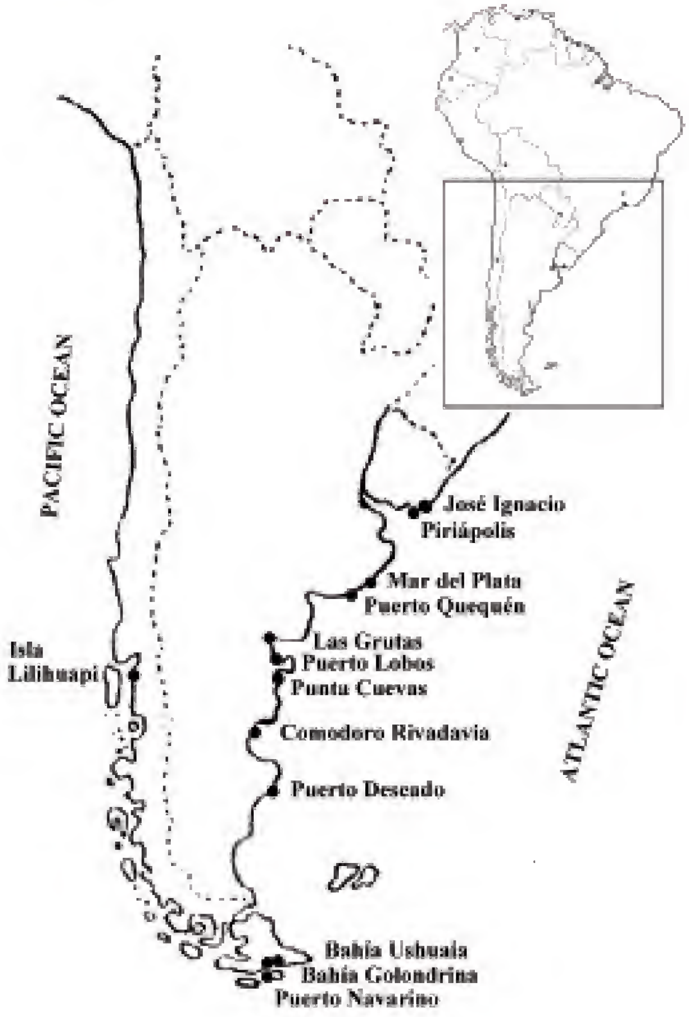

Fig 2 Sampling sites.

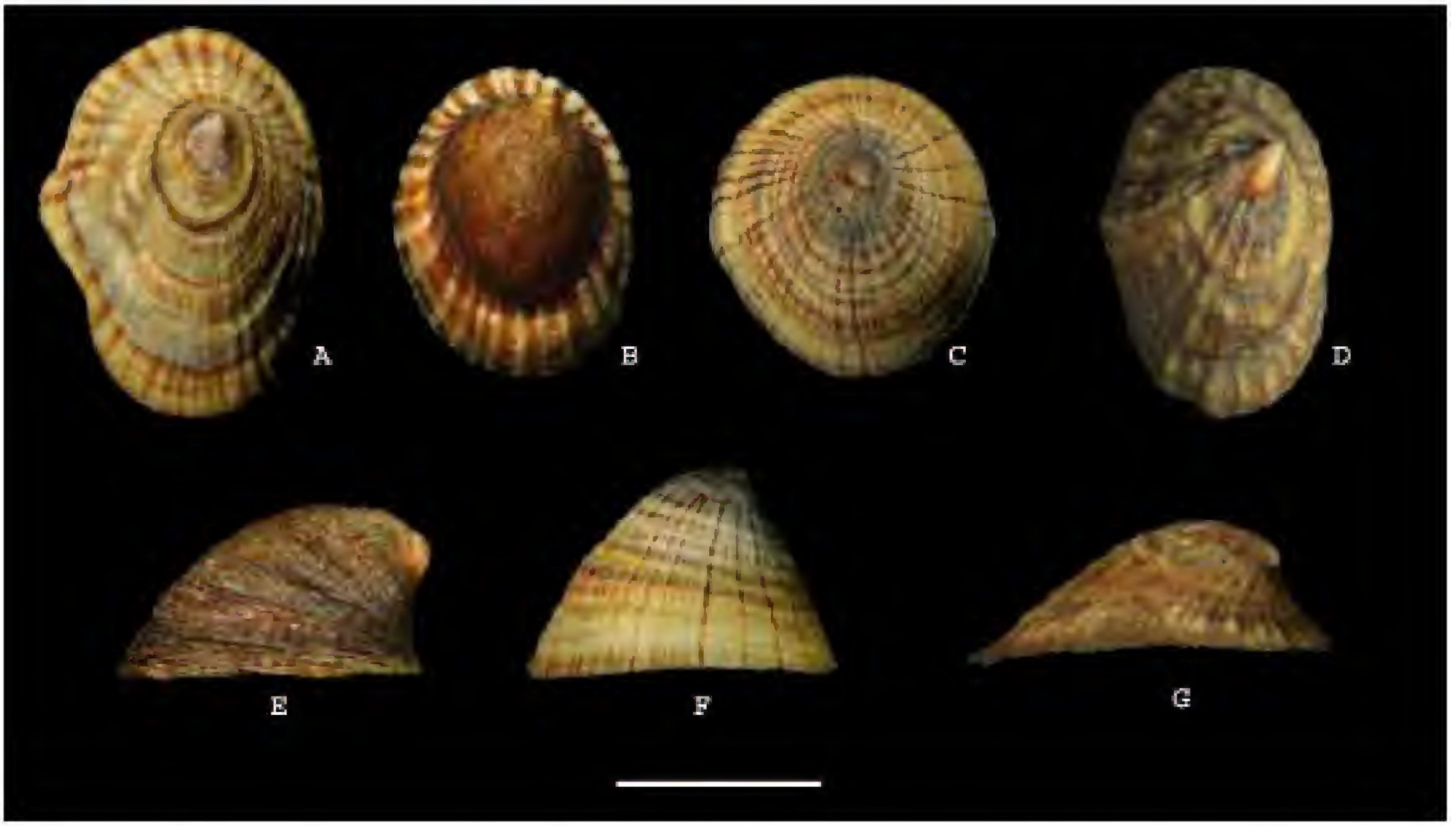

Fig. 3 Shell morphology. A-C, E, F: *Siphonaria lessonii*; D, G: *Siphonaria lateralis.* A-D: dorsal view; E-G: lateral view. Scale bar = 1 cm.

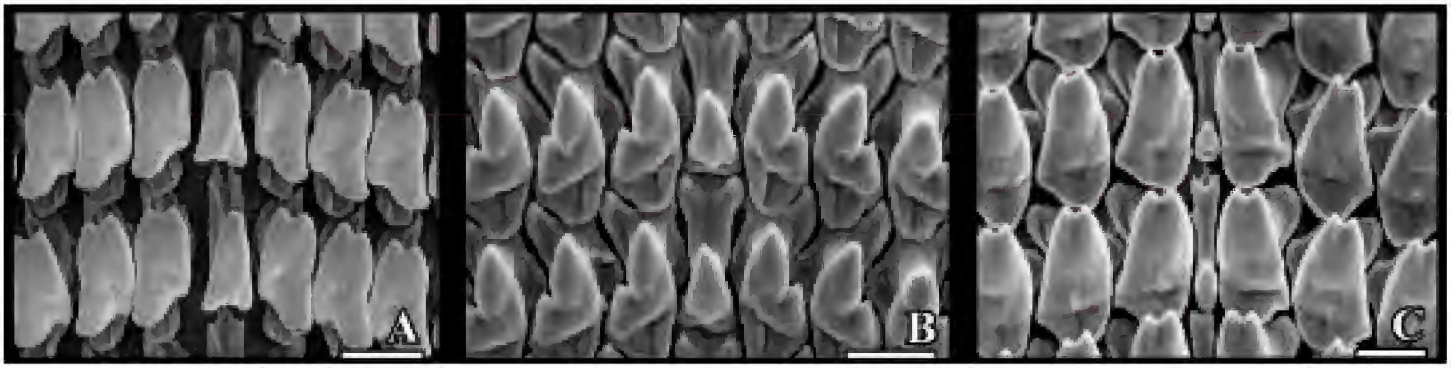

Figure 4. Radulae. A, B: *Siphonaria lessonii*, C: *Siphonaria lateralis*. Scale bar = 20 µm.

the Western Atlantic, and northwards to Peru, on the Pacific coast.

2) To corroborate the distribution range of each species.

MATERIAL AND METHODS

The main sources of information for this study were the specimens collected during several field trips to 13 localities along the Uruguayan, Argentinean, and Chilean coasts (Fig. 2). This information was supplemented with the malacological collections at Museo Argentino de Ciencias Naturales (MACN), Buenos Aires, Argentina; Museo Nacional de Historia Natural (MNHN), Santiago, Chile; Museo de Zoología de la Universidad de Concepción (MZUC), Concepción, Chile; and Natural History Museum of Los Angeles County (LACM), Los Angeles, USA. Furthermore, all available types of the species described or reported for the area were studied.

The information basis for the present study included: morphological characters (i.e. general shell characteristics, radial sculpture, apex position), radula morphology (studied by scanning electron microscopy), the anatomy of the distal portion of the reproductive system (by dissections and seriated cuts), and molecular information (considering sections of the markers COI, 12S and 16S).

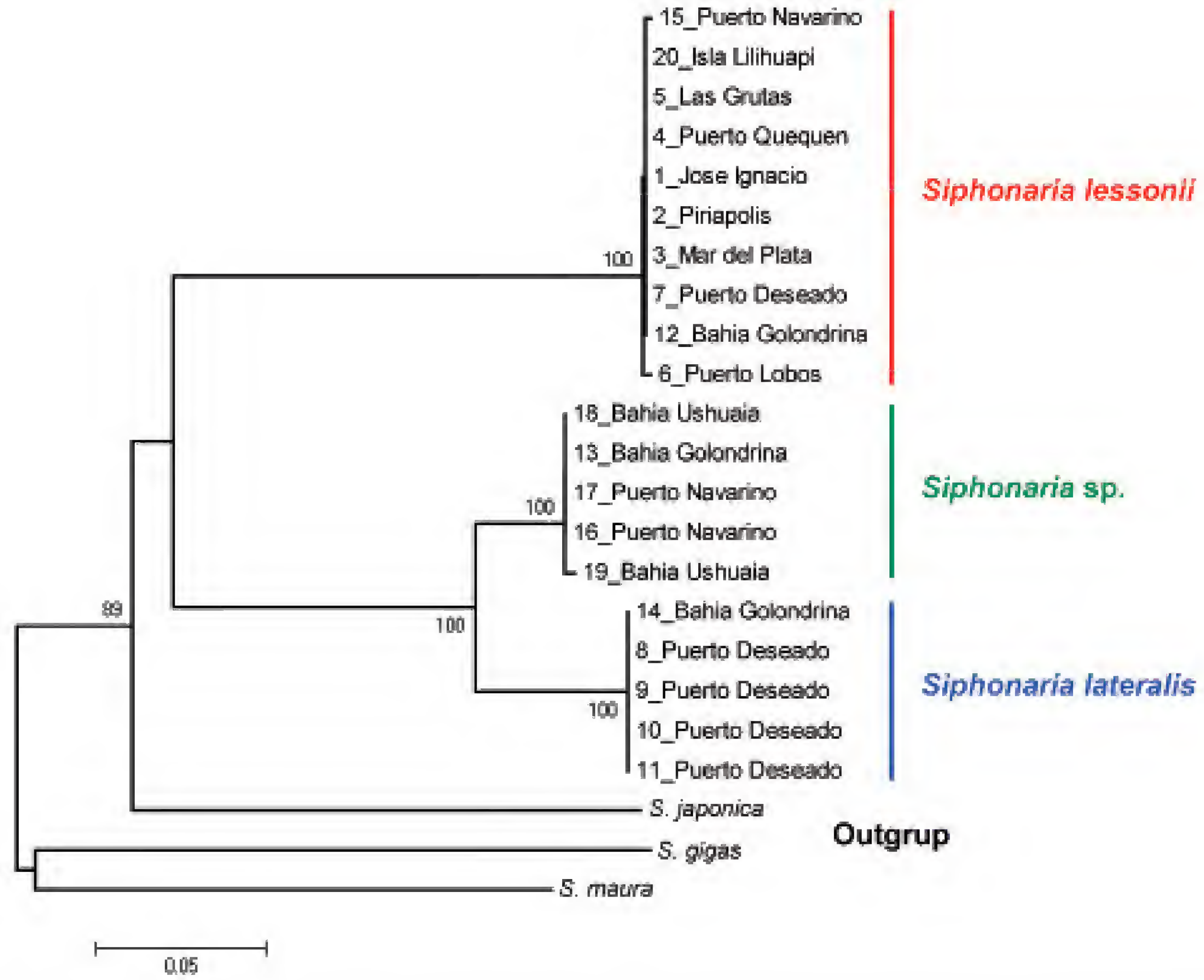

Fig. 5 Neighbor-joining tree for COI gene fraction (659 bp) of 20 *Siphonaria* specimens. Terminal names indicate the site of collection showed in figure 2. Only bootstrap values above 80 are shown (1,000 replicates used).

MAIN FINDINGS

Siphonaria lessonii actually proved to be a widely distributed species, occurring along the southern cost of South America, from Brazil to Tierra del Fuego and north to Perú, including the Beagle Channel and Malvinas (Falkland) Islands; no other gastropod species from the area shows such a wide distribution. Along with its distribution, *S. lessonii* shows a remarkable morphological variability (Fig. 3 A-C, E, F), which also encompasses differences in the number of teeth per row and between individuals and their morphology. While some specimens have ectocones in all laterals, in others the ectocone is reduced or even absent in the first 8 laterals (Fig. 4). Despite that, molecular evidence reveals that all of this variability is within a single species (Fig. 5). Not considering this intraspecific variability, led to the description of seven other nominal species, which are actually variants of *S. lessonii*. Those species are now known as synonyms of *S. lessonii*.

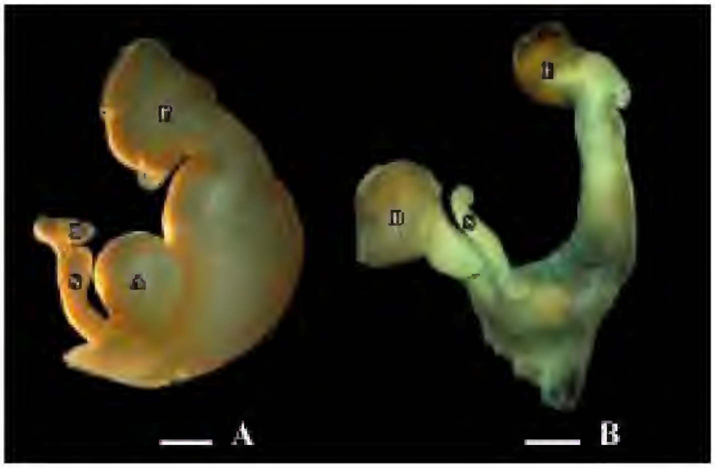

Fig. 6 Distal portion of reproductive system. A: *Siphonaria lessonii*; B: *Siphonaria lateralis*. Abbreviations: A = accessory pouch, B = bursa, E = epiphallus, S = spermoviduct. Scale bars = 1 mm.

Two other species of *Siphonaria* have been recognized as valid. One of them corresponds to *Siphonaria lateralis*, and the other is probably a new species; both of them are restricted to southern Patagonia and Malvinas (Falkland) Islands in the SW Atlantic. These species clearly differ from *S. lessonii* by shell and radula morphology, anatomy, and in the molecular markers considered in this study (Figs. 3-5). Whereas *S. lessonii* has a shell with smooth radial sculpture and a strong rachidian tooth, both *S. lateralis* and *Siphonaria* sp. have shells with irregular radial sculpture and weak rachidian teeth. Moreover, *S. lessonii* has a massive epiphallus and variably developed accessory pouch in the distal portion of the reproductive system. Both *S. lateralis* and *Siphonaria* sp. have elongated epiphalli and lack the accessory pouch (Fig. 6). Although *S. lateralis* and *Siphonaria* sp. are similar in form, they can be easily distinguished by the extremely asymmetrical shell and granulated ribs of *S. lateralis,* and the characteristic full beaks of *Siphonaria* sp., which end beyond the shell posterior outline.

CONCLUSION

The present study reveals that the great number of *Siphonaria* species listed for the southern tip of South America are actually an artifact, several synonymous names proposed for a single, highly variable species (*Siphonaria lessonii*). Out of the 13 nominal species reported for the area, only three species actually occur there.

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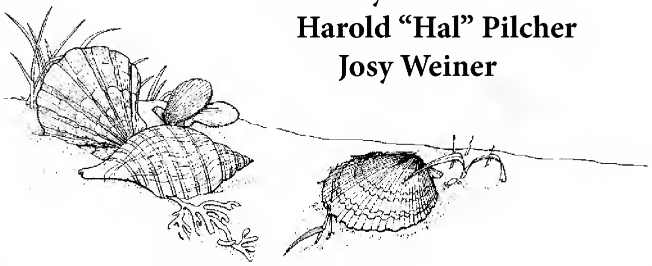

Dr. Holly Hale - college educator, author, world traveler, entrepreneur, shell collector.

Harold "Hal" Pilcher - retired USAF, 18-year volunteer at the Bailey Matthews Shell Museum.

Josy Weiner - escaped Nazi Germany, to Chile, to US, tireless COA volunteer, "shake 'em up!"

Bahamian Seashells:
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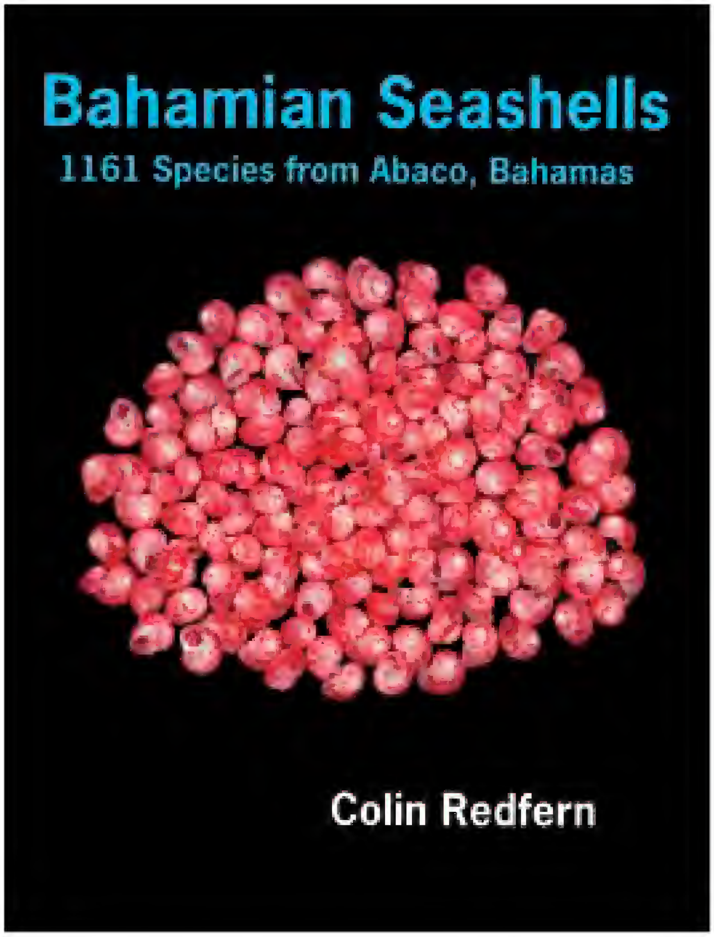
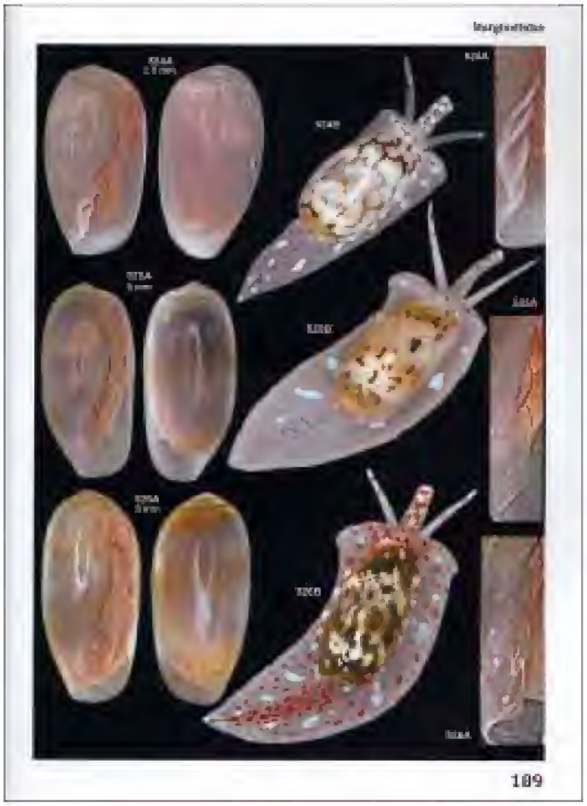


Colin Redfern's update of his original *Bahamian Seashells: A Thousand Species from Abaco, Bahamas* (2001) is an expanded second edition (so much so that it is a different book) with 161 new species covered, 170 scanning electron micrographs (SEM's), **over 3,600 new color photographs**, and an updated taxonomy. These easily observed facts are reason enough to buy this incredible follow-on volume, but there is more. I purchased the first *Bahamian Seashells* (BS1) at the Bailey-Matthews Shell Museum, Sanibel, Florida, during the 2005 COA convention in Punta Rasa, Florida. Despite a preponderance of black & white photographs, I found this volume extremely useful and applicable to a far wider range than just the Bahamas. My copy of BS1 is tattered from a lot of use looking up shells from Florida or the Caribbean area, not just the Bahamas. Now Colin gives us BS2 with color photographs, more species, and a new and easy to use format. The description of a species is on the same page or opposite page as its color photograph(s). No more flipping from front to back to match a description with a photograph. As a final benefit, there are tons of color images of the living animals. The image shown here is typical with shell specimens (none over 10 mm), the living animals, and close ups of identifying features of the columella. Thus detail and "life" is given to shells that are smaller than a grain of rice and almost featureless without such magnification and color.



As for the faunal coverage of the book, BS2 covers: Gastropoda, Scaphopoda, Polyplacophora, Bivalvia, and Cephalopoda. The images are nicely sized and often show the living animal as well as the empty shell. There is an extensive index with listings of both common and scientific names (including separate entries for family, genus, and species). There is also an appendix with image data for each image used in the book - a data slip for each image of where that particular specimen was found (e.g. beach drift, dredged in sand at 2 meters, etc.). The bibliography is of "literature cited" and is extensive. A lot of preparation and hard work went into this book and it shows.

BS1 proved to be an invaluable tool, both for casual collecting and research. BS2 takes these qualities and adds: an increased species count, new color and SEM images, and an easy to use format. **I honestly cannot find a single aspect of this book I do not like. Amateur or professional, if you are interested in conchology or malacology, this book really belongs on your bookshelf.**

33rd annual Marco Island Shell

Linda Shockley won the Conchologists of America (COA) Award for her display of Marco Island Area Bivalves (self-collected). She also won the Natural History Photographic Award and the Scribner's Trophy.

The 33rd annual Marco Island Shell Show was an unqualified success with lots of superb shell displays in both the scientific and artistic categories. It seemed there were more visitors this year and everyone seemed to have fun and maybe even learned a bit. This year's judges were Jim Cordy and Wayne Harland; both are veteran shell show exhibitors and judges. This year's show chairman was Jae Kellogg and he, along with a plethora of able and willing volunteers ensured the success of the shell show. Linda Shockley (pictured here at the Sanibel Shell Show) took three awards (including the COA Award) with her display, "Marco Island Area Bivalves." All were self-collected shells, displayed in 9 cases covering 17 feet.

Conchologists of America (COA) Award - Linda Shockley - Marco Island Area Bivalves (self-collected)

Du Pont Trophy - Alice and Robert Pace for "Florida/Caribbean Marine Gastropods"

Natural History Photographic Award - Linda Shockley

Scribner's Trophy - Best Collection of Self-collected Marco Island Shells - Linda Shockley

Florida Gulf Coast University - Best Self-collected Marco Island Shell - Jae Kellogg

Part of Linda Shockley's award winning display, Marco Island Area Bivalves.

Marco Island Shell Show - 2013.

Board of Directors Trophy - Shell of the Show - Gregory A. Curry, Sr.

Best Collection of Miniatures Trophy - Amy and Bill Tripp

Best Florida/Caribbean Single Shell Trophy - Amy and Bill Tripp

The Dr. William O. Reid Plaque - Bob and Pat Linn

The Jerome Bijur Trophy (Novice Active Member) - Patricia Davison

Judge's Merit Ribbon - Gregory A. Curry, Sr.

76th Annual Sanibel Shell Show

Joyce Matthys

The line of visitors waiting for the doors to open for the 76th Annual Sanibel Shell Show on March 7th was the first indication that it was going to be a great show. When the show ended on the 9th, more than 3,300 people had viewed the exhibits. The theme for the 2013 show was "Color Your World With Shells," with a special class of competition in both the Scientific and Artistic Divisions.

The Scientific Division exhibit hall was filled to capacity. There were more large scientific exhibits than ever before. Extra tables had to be ordered for the auditorium stage and when the set-up was complete approximately 500 linear feet of table space had been filled. Not only was this the largest-ever display of scientific exhibits, veteran show attendees agreed that the quality of the exhibits was outstanding. Scientific judges Jerry Harasewych and John Slapcinsky had their work cut out for them.

The Artistic Division exhibits were equally exceptional. The atmosphere of the exhibit hall this year was more like that of an art gallery. The artistic judges for the show were Daphne Hunte from Barbados and Lee Repetto from Cape Cod.

The sold-out Judges and Awards Reception was held at The Bailey-Matthews Shell Museum the evening before the show's opening. After the award winners were announced, those in attendance were invited to a sneak peek of the show.

This year The Bailey-Matthews Shell Museum enhanced its support of the shell show by offering free admission to the museum to everyone who gave the suggested $5 donation to see the Shell Show. Over 500 people took advantage of the offer and visited the museum during the show.

Major Scientific Award Winners
du Pont Trophy: Linda Shockley, Marco Island, FL

Conchologists of America Award: Charlotte Thorpe, Jacksonville Beach, FL

Best Sanibel-Captiva Shells, self-collected: Robert & Alice Pace, Miami, FL

Best Florida-Caribbean Shells, any source: Robert & Alice Pace, Miami, FL

Howard Sexauer Award: Charlotte Thorpe, Jacksonville Beach, FL

Shell of the Show, self-collected: Charlotte Thorpe, Jacksonville Beach, FL

Shell of Show, any source: Robert & Alice Pace, Miami, FL

Shell of the Show, Fossil: Irene Longley, St. James City, FL

Best of the Blues: Ken & Joyce Matthys, Salem, OR

Anne Joffe Superstar Trophy: Thomas Grace, Alburtis, PA

Theme Award "Color Your World With Shells": Bill & Amy Tripp, Marco Island, FL

Both Special Judges' Ribbons were won by Robert & Alice Pace, Miami, FL

Judges Merit Ribbons: Clare Horner, Pittsburg, PA

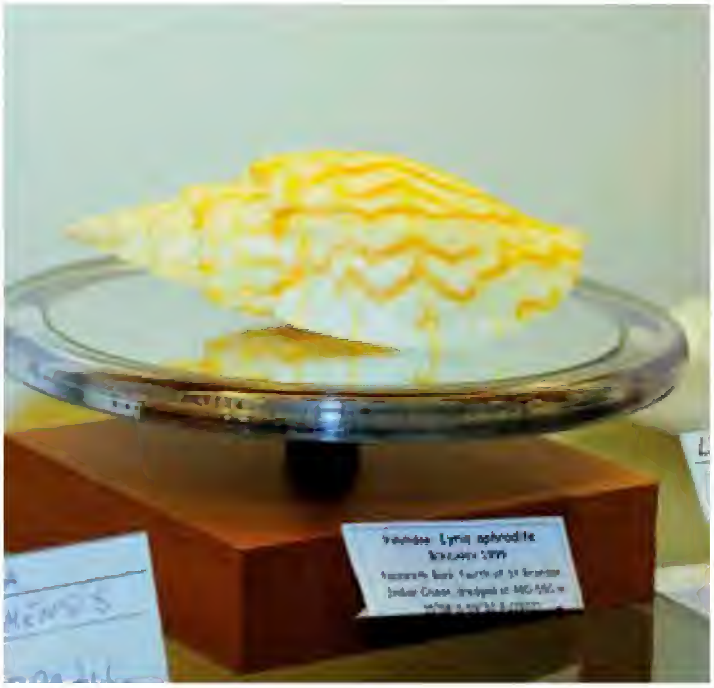
Conchologists of America Award: Charlotte Thorpe, Jacksonville Beach, FL.

Anne Joffe Superstar Trophy: Thomas Grace, Alburtis, PA.

The 23rd Antwerp Shell Show

The 23rd Shell Show held in Antwerp, Belgium, 17 - 19 May 2013 was a rousing success. The organizers did an outstanding job with the overall venue and the display layout. Participants came from around the world and included shell dealers, scientists, collectors, and some locals who were just curious. Guido Poppe prepared an excellent overview of the event that is available as a PDF download from his web site: www.conchology.be (click on "Shell Topics," then "*Visaya* Net," then "Antwerp Shell Show 2013." If you register on his site you can get automatic updates on *Visaya* publications and other shell related activities, plus access to tens of thousands of quality shell images.

The winner of the COA Award at this year's show was Philippe Vandenberghe for his superb and well-documented display of Cypraeidae. "Shell of the Show" went to the second documented *Lyria aphrodite* Bondarev, 1999, displayed by Félix Lorenz. There were any number of other notable displays and spectacular shells (including an 80+ cm *Pinna nobilis* owned by Tiziano Cossignani).



"Shell of the Show" went to this very rare *Lyria aphrodite* Bondarev, 1999, displayed by Félix Lorenz. Image courtesy of Guido Poppe, www.conchology.be

Philippe Vandenberghe won the COA Award at the Antwerp Shell Show for his Cypraeidae display. Image courtesy of Guido Poppe, www.conchology.be

2013 SHELL SHOWS & RELATED EVENTS (August – December)

Information is subject to change. Please verify with individual organization

Aug. 16-18, 2013
JERSEY CAPE SHELL SHOW, Stone Harbor, NJ
The Wetlands Institute, Stone Harbor, New Jersey
Louise Pepe e-mail: louise.m.pepe@gmail.com
(856)-723-6494

Sept. 7, 2013
CHATSWORTH SHELL FAYRE, Derbyshire, UK
Cavendish Hall, Chatsworth Estate, Derbyshire
Brian Hammond, Sulwath, Dornockbrow
Dornock, Annan DG12 6SX, UK
E-mail: brianandedna@btinternet.com
44 146 170 1096

Sept. 14-15, 2013
INTERNATIONAL SHELLS & FOSSIL BOURSE,
Ottmarsheim, France
Salle Polyvalente, Rue de la Priscine
Michel Rioual, 2 Rue des Vergers
68490 Ottmarsheim, France
(3) 89-26-16-43

Sept. 21-22, 2013
ANNUAL GERMAN SHELL FAIR, Oehringen, Germany
KULTURA Hall, Herrenwiesenstr. 12
Kurt Kreipl, Hoehenweg
D-74613 Oehringen-Cappel, Germany
61 (7941) 62-826
E-mail: meeresmuseum@t-online.de

Sept. 28-29, 2013
NORTH CAROLINA SHELL SHOW, Wilmington, NC
Cape Fear Museum of History & Science
814 Market Street, Wilmington, NC 28401
John Timmerman, Show Chairman
(910) 798-4368
E-mail: jtimmerman@nhcgov.com

Oct. 19-20, 2013
PHILADELPHIA SHELL SHOW, Philadelphia, PA
Academy of Natural Sciences, Parkway & 19th St.
Paul Callomon, Academy of Natural Sciences
Parkway & 19th St., Philadelphia, PA 19103
(215) 299-1159
E-mail: callomon@ansp.org

Oct. 26, 2013
SYDNEY SHELL SHOW, Sydney, Australia
Steve Dean, 166 Narabeen Pk Pde
Mona Vale, NSW 2103
61 (2) 9979-5736
E-mail: steve@easy.com.au
Cell: 61 (4) 1175 1185

Oct. 26, 2013
BRITISH SHELL COLLECTOR'S CLUB CONVENTION, Essex, England
Theydon Boys Community Centre, Theydon Boys, Epping, Essex
John Whicher, Higher Marsh Farm, Henstridge, Somerset BA8 0TQ, UK
Email: john@whicher.plus.com
44 (196) 336 3715

Nov. 9 -10, 2013
XVII PRAGUE INTERNATIONAL SHELL SHOW, Prague, Czech Rep.
KULTURNIDUM LADVI Buresova 1661, Prague 8
Jaroslav Derka, Holeckova 51/370
15000 Praha 5, Czech Republic
42 (2) 5731 6246
Email: jderka@volny.cz
Web sites: http://cksl.webpark.cz http://shells.webz.cz

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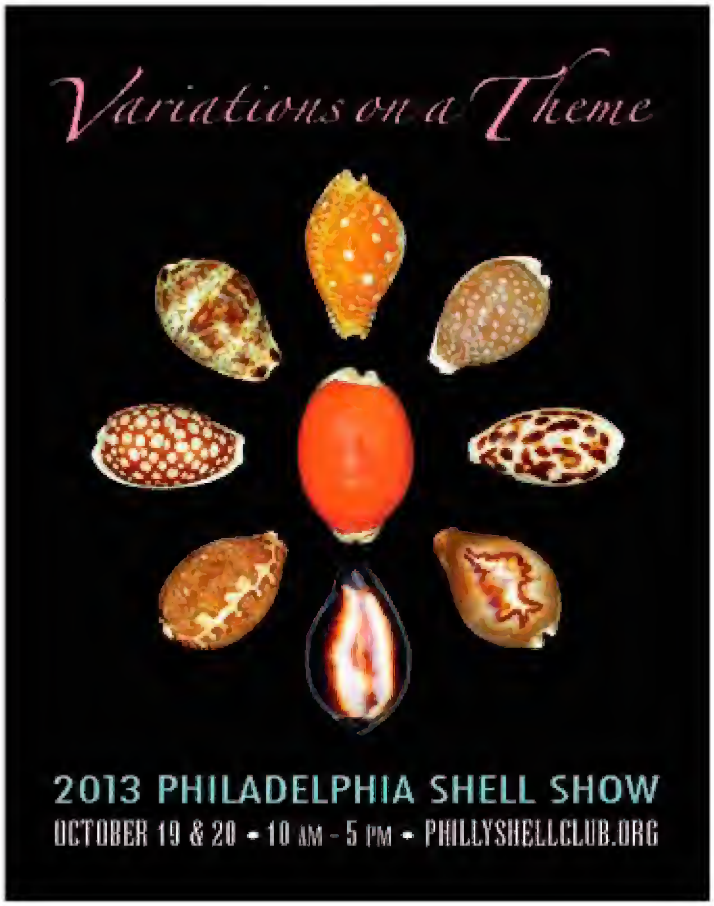
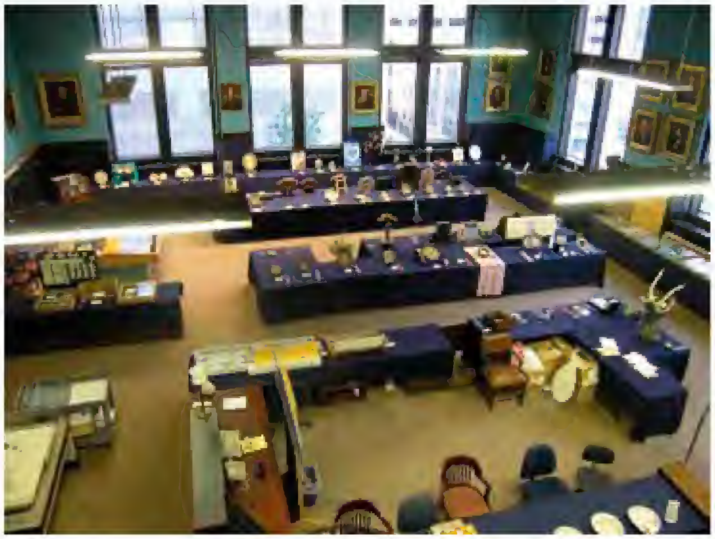

Variations on a Theme
2013 PHILADELPHIA SHELL SHOW
OCTOBER 19 & 20 • 10 AM - 5 PM • PHILLYSHELLCLUB.ORG

The 2013 Philadelphia Shell Show

Paul Callomon

Once again, the largest shell show in the northeast swings onto the calendar! This year it's on October 19 and 20, with setup on the 18th. As in 2012, the show will be laid out in the magnificent reading room of the Ewell Sale Stewart Library at the Academy of Natural Sciences, and in the adjoining exhibit spaces. 2012's array of masterpieces will be a hard act to follow, but veterans and beginners alike seem to find new inspiration each year for this event! All the usual attractions will be on offer, including Free Shells for Kids, various raffles, and behind-the-scenes tours of the Academy's vast shell collection.



The Ewell Sale Stewart Library at the Academy of Natural Sciences is a truly historically significant site for a shell show. You cannot help but feel the rich atmosphere.

Feedback from competitors and guests is always welcome, and it has inspired a few changes for 2013. The revamped Philadelphia Shell Club web site www.phillyshellclub.org has the entry forms and show rules, together with the Guide to Judging, and completed forms should now be mailed or e-mailed to show chair Paul Callomon at callomon@ansp.org, who will pass them on to exhibits chair J. B. Sessoms. Setup will both start and end an hour later than before, lasting from 10 am to 5 pm.

There is a special award this year for exhibits demonstrating "Variations on a Theme." This motif has been chosen to encourage the largest number of competitors! All collectors know that shells of the same species can vary in many obvious ways: size, pattern, color, and so on, but that's not the only sense in which variations can be found. Here are some other ideas:

Shell show visitors will instantly recognize this as a shell display by Sue Hobbs. Her sales table is a highlight of any shell show.

- Many snails (and, believe it or not, a few bivalves) are carnivorous. They go after their prey in various ways however: some use poison, some drill through their victims' shells, and others are parasitic
- Some shapes occur in unrelated families. For example: the true limpets (Patellidae, Nacellidae etc.) share the same simple conical shape with the freshwater Ancylidae and the air-breathing Siphonariidae, among others.
- Stripes, spots, spines – these are all "themes" that can be illustrated using shells from very different families.
- Even names can follow themes; shells have been named for Greek gods, for animals and for precious metals, among many others.

The "Variations on a Theme" award is not limited to scientific exhibits! The Conrad Award for best paleontological exhibit is back this year too, alongside major prizes such as the COA, Pilsbry and Masters' Awards, and the DuPont Trophy.

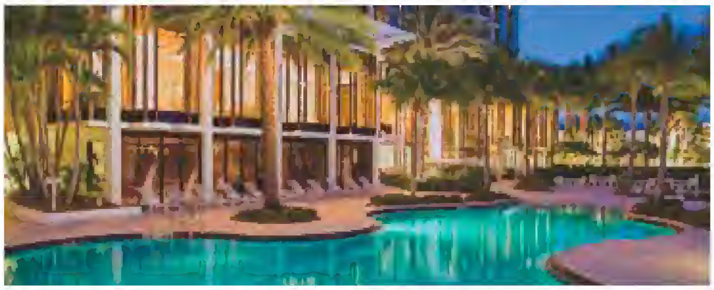
For accommodation, the club has arranged a special block of rooms at the nearby Windsor Suites www.windsorhotel.com. Philadelphia is a popular convention venue in the fall, so get your bookings done in good time!

The show and bourse open at 10 am on both days, and a social event is planned around the awards ceremony on Saturday evening – details coming soon. See you in Philadelphia!

Contact: Paul Callomon
2013 Philadelphia Shell Show Chair
callomon@ansp.org
Tel. 215-405-5096

COA annual convention: July 15-21, 2013

The Sarasota Hyatt is a special place - join us.



The Conchologists Of America annual convention is July 15-21, 2013, in Sarasota, Florida, with a great lineup of field trips on July 13, 14, 15, 18, and 21! We still have room on the field trips for the COA convention, though the SMR fossil trip is filling up. There are 13 spaces still available for this trip. The wading trip still has plenty of room, as do the snorkel and scuba trips. The parking lot fossil trip hasn't proved to be popular, with only four signed up. If we don't get many more we may have to cancel it, since the costs will be too high. Remember, YOU DON'T HAVE TO BE A MEMBER OF COA to register for the convention and take advantage of the field trips; however, you do have to register to go on a field trip.

You'll find there are lots of great programs to see, people to schmooze with, and other exciting activities. The hotel is offering light lunch selections in the area in front of the meeting rooms so you don't have to go far or spend a lot of money. If you'd rather go elsewhere, however, downtown Sarasota is just a few blocks away with a great variety of restaurants. When you register at the hotel you can request a refrigerator, and there are two groceries within walking distance.

Our theme is "Circus of Shells," and we urge you to bring a circus-related costume for the Welcome Party on Tuesday evening, July 15. It will be a full meal with plenty of seating and entertainment, plus some surprises.

We already have nearly 100 items in the oral auction, with some excellent shells to be had. We can always use more silent auction items (send them to me at the below address), but we have a good selection already. There will be 7 silent auctions altogether.

During registration on July 15 and 16 you can get cheap shells - at 25¢ and up, many of them miniatures, and all identified for you.

The Bourse will be bursting at the seams - we have NO MORE space left for shell dealers. There are exciting dealers coming from every continent except Antarctica, with shells galore! Dates are July 20 beginning at 1:00 and ending the next afternoon at 4:00, and YOU DON'T HAVE TO REGISTER TO COME IN, LOOK AROUND, AND BUY!

To get a registration form, if you don't already have one, go to http://www.conchologistsofamerica.org/conventions/.

Y'all come to the Circus of Shells!

Peggy Williams, convention chairman
PO Box 575
Tallevast FL 34270
Peggy@Shelltrips.com (941) 355-2291

Vol. 41, No. 3, Sept. 2013

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American CONCHOLOGIST

Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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Front Cover: *Perotrochus quoyanus* (Fischer & Bernardi, 1856) taken at 880 feet in Trujillo Bay, Honduras in 2011. This is probably the first image of the living animal. This species seems limited to the Caribbean and is seldom seen on dealer lists, much less alive and craling on the substrate. Photograph by Charles Rawlings.

Back Cover: An etching of three shells by Chicago COA member Rebecca Gray Smith. This is an intaglio etching plate created by the artist. The intaglio etching process was invented in the 1400s and the plate is usually copper or zinc. Both Rembrandt and Picasso used this medium.

Editor's comments:

First a couple of corrections from Don Cram concerning his article, "Early taxonomic history of *Notocypraea* Schilder, 1927," in the last issue, Vol. 41, No. 2, June 2013. On page 4, paragraph 1, lines 6 & 7 - the date for Schilder is 1961 (not 1962). Then, on page 6, column 2, 8 lines from the bottom - delete 1925.

And now to this issue. Our front cover is again provided by Charles Rawlings (see his *Neptunea* award on page 21. A very rare photograph of a rare species, *Perotrochus quoyanus* (Fischer & Bernardi, 1856). The back cover on this issue is the etching plate of three shells by Chicago COA member Rebecca Gray Smith.

Our first article is a fun travelogue by Marcus Coltro to Kiritimati, or Christmas Island. I follow this with a review of a new book on pen shells (Pinnidae), all 55 or more species! Then Roland Houart and Sandro Gori bring us a new color variation in the diminuative *Muricopsis principensis* Rolán & Fernandes, 1991. Kristina Joyce has two interesting tales from Japan. One is an introduction to Mitsuo Chino, President of the Tokyo Malacological Society and the other a bit about the shell collection of His Majesty The Emperor Showa of Japan. We have a report on the very successful Sarasota COA 2013 convention and the awarding of the 2013 *Neptunea* Awards. Then we have an interesting COA grant report by Nicholas Carey that looks at changing habitat and its effects on three chiton species. Gene Everson provides a pictorial review of shell collecting from A to Z, Paul Kanner shows us an interesting find with *Conus adamsonii*, and we have some information about the COA Grant Program and the grants for 2013. Sadly we have to report on three shellers no longer with us, including Sybil Burger with whom I shared many a COA banquet dinner and late evening drink (and shell tales). I threw in a side bar on the taxonomic terms "available" and "valid." Both Harry Lee and Richard Petit have corrected me on the use of these terms in the past and I thought I might as well share my newfound knowledge. Our last pages are a reproduction of the pamphlet provided for the COA 2014 Convention in Wilmington, North Carolina. We will have more information in the next issue or so, but it really does look like it will be a great time.

Tom Eichhorst

Have you heard of Kiritimati?

Marcus Coltro (photos by author)

Have you heard of Kiritimati? It is also known as Christmas Island (do not confuse it with the island of the same name in the Indian Ocean). It is part of the Republic of Kiribati, about 2,000 kilometers South of Hawaii. It is the largest coral atoll in the world, about 150 sq. miles in area (one of 33 atolls and islands in the republic). The British conducted nuclear tests near there in the 1950s and the US conducted a similar test in 1962 (I did not find any glowing shells though).

In their language, Gilbertese, "ti" sounds like "ss" so Kiritimati sounds like Kirissmass, or Christmas! It is the first place in the world where the time zones start the next day, although it is on the same longitude as Hawaii. So when I left Honolulu on Tuesday afternoon I arrived on Kiritimati on Wednesday afternoon, losing one day. On the way back, I left Wednesday morning and arrived at Honolulu one day earlier, Tuesday morning - time travel!

Approaching Kiribati or Christmas Island from the air. This is the largest coral atoll in the world, one of 33 islands or atolls in the Republic of Kiritimati. With a population of over 100,000, the republic has evidenced concern about climate change and subsequent rising sea levels.

Why Kiribati? The idea of going there was very appealing since there are few or almost no shells from that place in collections (do you have any?). I also found it odd that Bunnie Cook never went there, since it is not very far from Honolulu.

You can get there flying from Fiji or Honolulu. There is one flight per week on Wednesday operated by Air Pacific. Most (if not all) of the tourists are fisherman looking to catch large trevally or kingfish (*Caranx* ssp.) and bonefish (*Albula* ssp.) found inside the atoll. While searching for information on the Internet I came across a company that offers packages including flights and hotel. They give a brief description of the island and their Q&A section reads, "What to do on the island if you do not fish? Nothing, don't go." Well, I was certainly the only person among the tourists that did not bring fishing gear...

The first step was getting a permit to collect shells - a very bureaucratic process, but I finally got it. The flight from Honolulu took 3 hours and arrived at Cassidy "International" airport. I think my office is bigger than the airport. On the same flight I recognized the Spanish accent spoken by several people. They were from Ecuador and were recruited to crew one of several tuna boats that were docked on the island.

After passing through customs (and getting a new exotic stamp on my passport) I looked outside for my transportation to the Captain Cook Hotel. There was a "shuttle" waiting where I met two American tourists coming to... fish, of course. The "shuttle" was a truck converted to carry passengers on the back.

The island economy is based on copra (dried coconut pulp). There are about 9,000 inhabitants. Roads are not well maintained, but are ok. I should say "is" ok, since there is only one paved road. It took a few minutes to get to the hotel, which is beachfront (duh, what else on an atoll?). I really did not care much to see my room, so went straight to see the ocean a few meters away. Not the best place to snorkel, lots of waves crashing on the beach.

The room was very satisfactory, two beds, everything clean, a fridge, and air conditioning. The only thing I did not like much was the fact that hot water was scarce. Yes, I like to take hot showers, even in such places. Try snorkeling for 5 or 6 hours and have only a cold shower afterwards, but no problem. Although the room seemed very clean, I always like to use a can of bug spray that lets go all of its contents after you break the seal (a fogger). You just have to leave the room closed for a couple hours and it will be protected for months against roaches and other insects.

It was already dinner time so I went to the restaurant where I met "all" the other four hotel guests. John (a guy

The beach outside the Captain Cook Hotel. It is difficult to put a high enough price on having such an expanse all to one's self.

Another of the island beaches.

that organizes fishing trips), Bill and Craig (two American fishermen who came with me on the plane), and Kent, a volunteer doctor who comes to the island once per year to help at the local clinic. I was not expecting much for meals and thought it would be a good chance to lose weight. I proved mistaken, as all meals were quite good and I did not lose an ounce. While talking to my new friends I learned some good tips about the island, especially how to move around. I wanted to go to London to snorkel (I never thought I would write such sentence) and had no idea how to get there, since the only rental car from the hotel was already rented. They have a bus on the island, but they told me it is not very reliable and I could wait for hours for it to come. So Kent offered me a ride the next morning when the clinic's driver came to pick him up. So all was set. I could try to go to Paris instead of London, but the roads were closed - yes, besides London there is a Paris (and there is a road between them!). There is also a Poland and a Tennessee (go figure that last one).

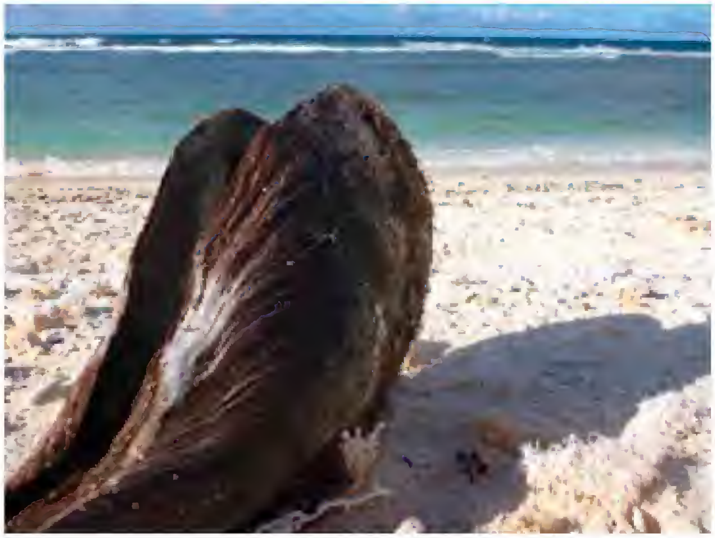
I woke up early and got ready to leave, just had to wait for the clinic's driver. Since the island was colonized by the British, they drive on the "wrong" side of the road, I mean, on the left side (the opposite of "right" is "wrong," isn't it?). I asked our driver how many kilometers of distance it was between London and the hotel, to which he replied "30 minutes." And what about distance? "I only know by time." Checking Google Earth, it is about 20km and it did take 30 minutes, as he said.

Ken was nice enough to let me use the clinic's bathroom to gear up and leave my dry stuff while I went snorkeling a few meters away. As Air Pacific was very strict about luggage weight, I could not carry lead weights. So I took a weight belt pocket model, where you can insert lead pellet bags, and used some bags of beach sand (yes, I am a modest genius). The water was somewhat murky and the bottom was plain sand with a few grass patches and small stones near the shore. The only places shells could hide were scrambled masses of old electric cables and an old oil pipe, all rusted and broken. Kind of disappointing - not many shells, except for *Cypraea moneta*, *Conus pulicarius*, *Conus lividus*, *Terebra maculata*, *Nerita plicata*, and a few other small shells. And no sharks, even after the locals alerted me before I entered the water. After 5 hours snorkeling I went back to the clinic to get my ride back to the hotel.

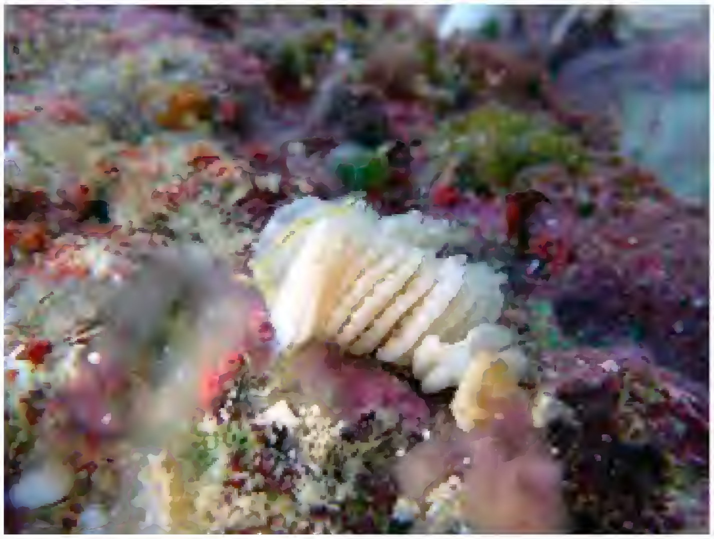
The local health clinic, lightly staffed, but certainly not over-crowded.

I asked Ken why there was no coral in the lagoon and he said the British dredged the atoll decades ago, which destroyed most everything. The only place with life would be Cook Island at the entrance of the atoll, but it is a sanctuary. Looking on Google Earth again, I noticed that Paris, on the

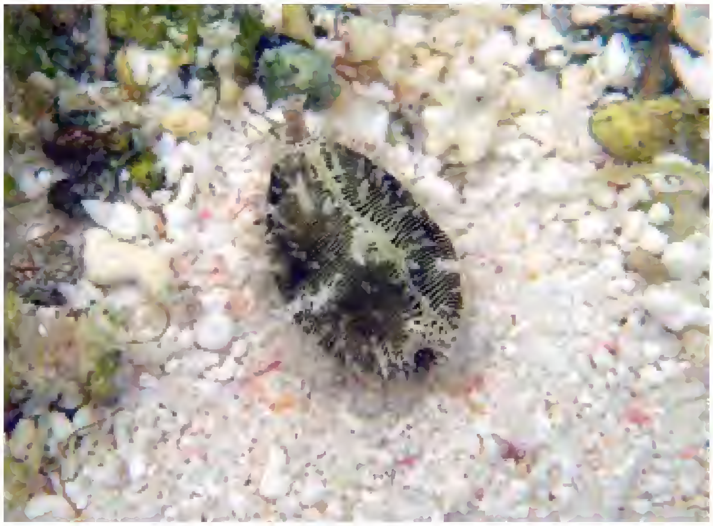
Some of the finds from Kiritimati



Atrina vexillum (Born, 1778)

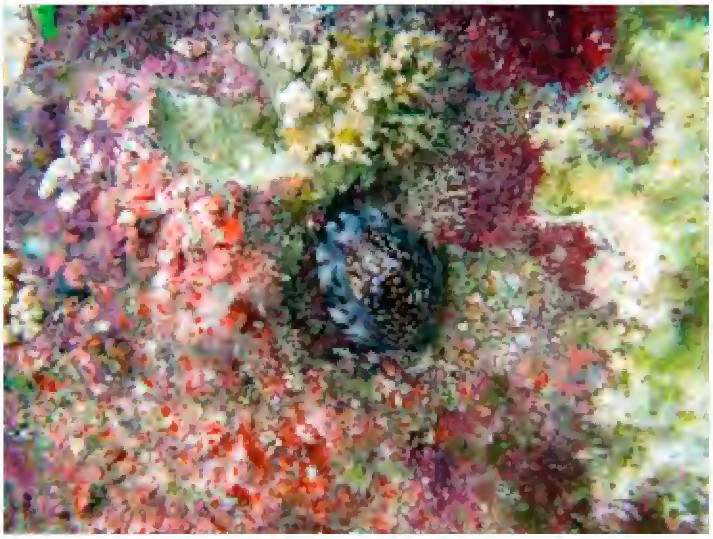


Conus egg case

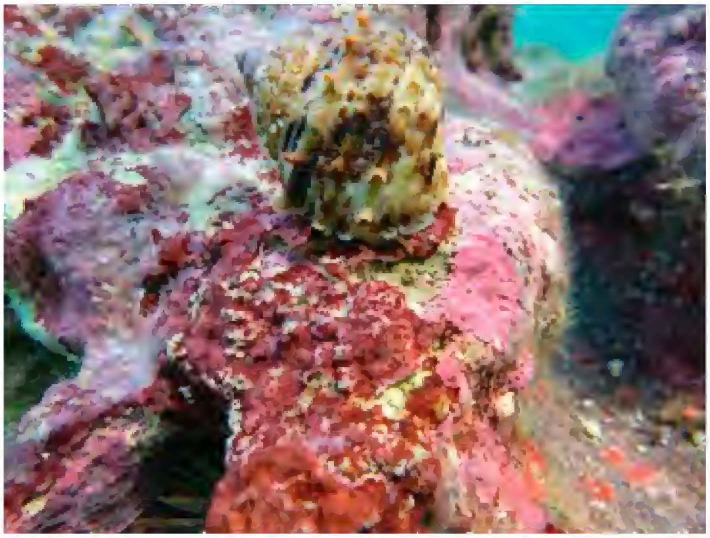


Cypraea moneta Linnaeus, 1758

A very colorful hermit crab hangs on in the current.

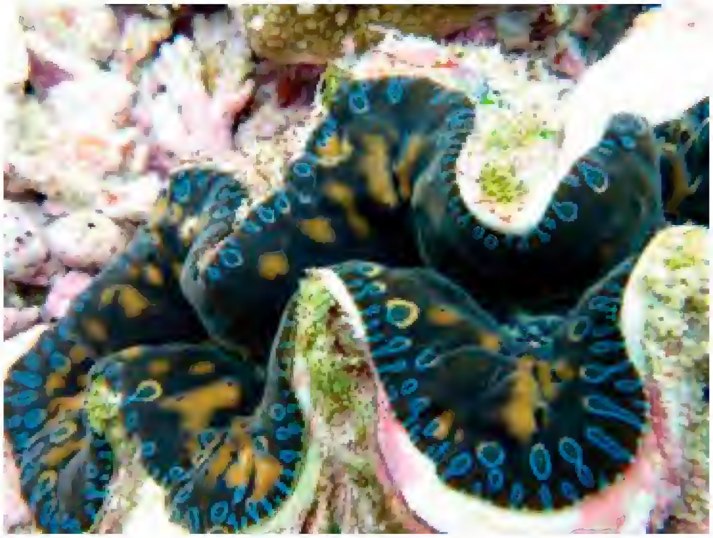


Cypraea depressa Gray, 1824



Turbo argyrostomus Linnaeus, 1758

My weight belt with sand, rather than lead weights costing high airline fees.



One of the colorful *Tridacna maxima* Röding, 1798.

opposite side of the entrance, would most likely be the same as London (another sentence I never thought I would write), so my alternative would be the beach in front of the hotel.

I got up very early next morning and walked on the beach looking for signs of interesting shells along the shore line. I heard people had found beached *Conus adamsoni* there. I saw a local woman coming with a bag in her hands. She asked me what I was doing and I explained I was looking for shells. She then opened the bag and inside were lots of fantastic shells, including some live taken *Conus adamsoni*! I was so thrilled that I could not believe - until I looked at her once again and she turned into Gisele Bundchen! Then I woke up, damn...

In real life, I walked about two kilometers where I saw a place where the reef was a bit further away from the beach and the waves seemed not as bad. It was not very easy to walk the long distances carrying all the gear, especially on soft sand with rubble. I found a spot under some trees where I could gear up and leave my dry clothes, water, and cookies (my lunch), behind the bushes. Not too important as there was no one else on the whole beach and I think I was the only person snorkeling on the whole island after hearing the hotel clerk ask, "Are you going to snorkel with all the sharks?" I really did not care about the sharks, but the waves and the current were awful. I think that was probably one of the most difficult places to collect shells I have ever been. Which may be the reason Bunnie Cook did not go there, despite the short distance from Hawaii.

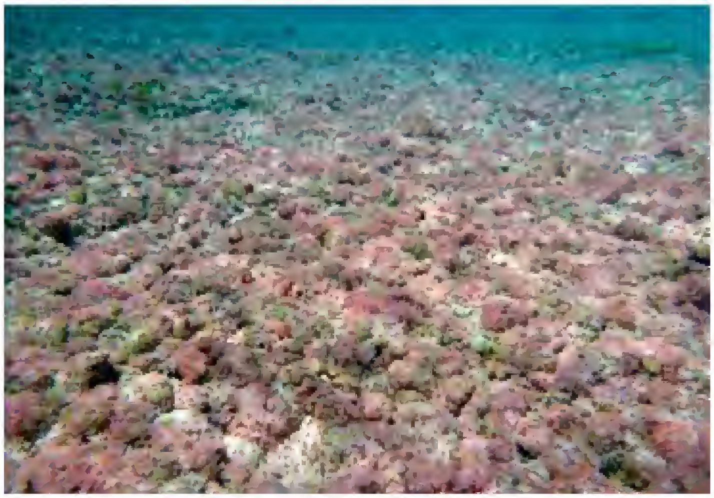
I had to continuously grab something, a rock, or coral, or stick my knife in the sand in order to stay in place. Even fish were struggling to swim. At least I was finding shells, and the place was much nicer than London, lots of coral and tropical fish. I found *Cypraea depressa*, *Cypraea poraria*, larger *Cypraea moneta*, a few different *Conus*, large *Thais armigera*, a few rare *Latirus amplustre*, *Bursa bufonia*, and several smaller species. I saw many beautiful live *Tridacna*, but did not collect any, only taking several pictures. By the way, even taking pictures was difficult since most of the time I could not let go with either of my hands. I almost destroyed my camera, now covered with scratches.

As usual, the best shells were near the outside reef where the current was strong. The closer I got, the worse it became. The current was so strong that I almost lost my mask and one of the waves threw me against a coral head. I was very glad I was wearing a 1 mm neoprene wetsuit. The hit was so hard that I almost tore the suit and cut my leg. It would not have been nice to bleed as I saw some sharks in the deeper water behind me. In this rough area I found large *Turbo argyrostomus*, a few *Cypraea caputserpentis*, dark *Cypraea depressa*, and some *Astraea*. I thought about swimming past the reef, but I was not sure how strong the current was and I did not want go back to Honolulu by sea.

After 6 hours I left the water, much happier than the previous day! But I still had to find an alternative for the following days. I got to the hotel when the sun was setting and I sat for a few minutes on the beach to appreciate the sunset. I did that the whole trip. This change of routine is what keeps me going, from a city with more than 20 million people to a deserted beach! I always make sure to store those moments in my brain so I can use them on a stressful day at the office, or maybe one day mentally teleport back if I acquire supernatural powers. I might not ever get rich selling shells, but the life experience, places I go and people I meet, pays for any trouble along the way. And these paradises make me realize how beautiful life can be.

I got back to my room to take a shower and check my findings. Then went to dinner with my new friends, they were also very excited from their fishing day. They caught several fish and explained to me how it works. They each pay a private guide who stands knee-deep in the water a few meters from the group. When the guide sees a fish they yell "45 yards, 2 o'clock" - meaning the direction and distance

The outer coral reef had extremely strong currents.



A carpet of pink mussels.

the fishermen should cast the line to catch the fish. The thing is, they are only allowed to take a picture and then must put the fish back into the water. Nothing can be brought back to the hotel. The meal finally arrived - fresh sashimi tuna and lobsters, what a treat!

The next day I tried to look for land shells on the road opposite the hotel, towards a place called Bathing Lagoon (belongs to the hotel). On the first day Kent drove me there on the way back from the clinic to check on a few bee hives he was farming. He is teaching the locals to farm and produce honey commercially. I knew it would be a long walk, about three km on a deserted road and they told me to take care since there are several small roads and I could get lost if I took a wrong turn. Since I am so smart, intelligent, and have a fantastic sense of direction (lies...), I did not bother to check the map and relied on my memory. The road was flooded in several parts since we had a severe thunderstorm the previous night, but it was walkable. I did not find a single land shell and I guess the reason is the quantity of land crabs of all kinds, sizes, and colors. They probably eat anything they can find, including land shells. I kept walking towards the lagoon anyway. Of course I took a wrong turn and ended far from the lagoon, deep in the island. Since I was not going to find anything, I went back to the hotel and went snorkeling once again at the same spot from the previous day.

I tried to go a bit further from the hotel and found another place that looked ok. The difference was that there were no corals, just a “fluffy” pink bottom. I looked closer and noticed it was made of a gazillion small mussels covered by pink algae. After a few minutes the current was getting bad once again so I moved closer to the previous place where I could find “anchoring” spots to grab and stay in place. I found a few shells and only snorkeled for four hours.

The hotel has several rooms in the main building, also several bungalows on the property. I was in the main building and it was easier to walk to the restaurant and closer to the Wi-Fi hotspot (yes, they had one!). While waiting for dinner I saw the Ecuadorians having snacks and beer in the lobby. I’d talked to them in Spanish and they were very happy to learn that I have been to Ecuador several times and have many friends there, so they invited me to join them for a drink. They were recruited by a big fishing company that hires fisherman from the West Americas, from Mexico, down to Chile. Crews stay onboard the fishing boats from a few months to a couple years. It is a tough life. They only come to land once in a while for a couple days, then go back to the rough sea. They told me the waves sometimes cover the entire boat, like those in the TV series Deadliest Catch, where they go to Alaska to fish for crab. And I was whining about snorkeling in rough seas. After (several) beers I ate something and went to bed (and I wonder why I did not lose weight on the trip).

I still had a couple of days to collect shells and the only option was going back to the same places. I tried walking the other direction, but it was even worse. I also wanted to make a night snorkeling excursion, but adding the facts that I spent most of the day snorkeling and that the best collecting place was a bit far to walk at night (no lights whatsoever) I gave up on the idea. Maybe I am getting old...

I saw several beached species on the shoreline that I did not find while snorkeling. They most certainly came from deep water behind the reef. To make a proper collecting trip to this place it would be necessary to have a boat and tanks (I wish Tony McCleery had not sold his sail boat) and more time. One week is not enough.

The flight back to Honolulu left very early and the customs people kept us waiting for a long time at the “International Airport.” The flight was delayed as well. They check every piece of luggage (looking for I don’t know what, as there is nothing to take from the island).

I can say this place is not for the faint-of-heart, due to the tough collecting, but I was able to find enough material to make the trip worthwhile. I also to put a pin on another exotic place on my map!

Marcus Coltro
Femorale.com.br

Revision of the World-wide Recent Pinnidae and some remarks on fossil European Pinnidae

by Peter W. Schultz & Markus Huber, 2013. ACTA Conchyliorum Monographien, No. 13, Club Conchylia, softbound, 8 1/4 x 11 3/4 in, ISBN 978-3-939767-49-7, 100s of color plates & B & W illustrations, €32.00, Conchbooks (www.conchbooks.de), 164 pages.

Review by Tom Eichhorst

CONCHYLIA
HEFT 13
ACTA CONCHYLIORUM
MONOGRAPHIEN
REVISION OF THE WORLDWIDE RECENT PINNIDAE
AND SOME REMARKS ON FOSSIL EUROPEAN PINNIDAE
PETER W. W. SCHULTZ & MARKUS HUBER

I would imagine that most of you reading this, if asked about the total number of Pinnidae species, would respond with a number somewhere around a couple of dozen or less. This is understandable as most references (all are general references and not specific to this family) would state something like, "A few species in three genera..." (*A Collector's Guide to Seashells of the World*, Eisenberg, 1981) or "About 25 known species..." (*Compendium of Seashells*, Abbott & Dance, 1990). The exception would be the recent *Compendium of Bivalves*, Huber, 2010, which states, "...more than 50 highly variable species...in need of an in-depth revision." This monograph is that revision.

Schultz and Huber recognize 55 valid pinnid species, plus two that are still questionable, but may be valid. This is a monumental work and the authors present an in-depth discussion of each species, including taxonomic history, type material, synonyms, habitat, range, morphology, comparison to similar species, and general discussion notes. This is accompanied by large, clear, full color photographs of each species (most often from museum collections), plus a number of illustrations from previous references. Fossil history and phylogeny are also covered. For those serious bivalve fanatics, this book includes very specific comments on shell structure, muscle scars, and valve coloration. Finally, as a real bonus for those of us not intimately familiar with pinnids (meaning most collectors), at the end of the book are a couple of identification guides that once you use, you will wonder why they are missing from other shell books. First is a chart that lists the Recent species along one axis and identifying characteristics along the other axis (e.g. shell outline, color, spines, etc.). This is very useful when comparing two similar species. The next identification aid is, for my purposes anyway, worth the price of the book. Near the end of the book are two color plates showing all of the Recent species. At a glance you can compare and contrast features of a shell in hand with all known species and quickly either identify your shell or narrow the identity down to a couple of similar species. I had a couple of unknown pinnid specimens in my collection and found them in seconds using these plates. A quick flip back to the aforementioned chart confirmed the identification. Paging back to the complete species write up provided lots of details about my "new" acquisitions.

This is obviously the definitive work on this family and a required reference for any collection or research in reference to the Pinnidae. The price is reasonable, buy it, you will be glad you did.

Color variations in *Muricopsis principensis* Rolán & Fernandes, 1991 (Gastropoda, Muricidae) from Príncipe Island

Roland Houart

Sandro Gori

Abstract. A few shells of *Muricopsis principensis* Rolán & Fernandes, 1991, with color variations are illustrated.

Introduction. Annobón, São Tomé, and Príncipe Islands are a group of small islands, relict of an ancient volcanic mountain range situated off the west African coast. They have long been known for the high level of endemism in their biota and some taxa are shared in the latter two islands (Houart et al. 2011). Among other taxa, eight new species of *Muricopsis* have been described from this small area (Rolán & Fernandes, 1991; Houart & Rolán, 2001; Houart, 2005, 2012; Houart & Gori, 2008; and Rolán & Gori, 2007). *Muricopsis (Muricopsis) principensis* Rolán & Fernandes, 1991, from Príncipe is a large species, typical for its slender shell with narrow spiral cords, shallow axial sculpture, and black and white color. A few specimens showing nice color variations were recently collected by the junior author. They are commented on and illustrated here.

Systematics

Family **MURICIDAE** Rafinesque, 1815

Subfamily **MURICOPSINAE** Radwin & D'Attilio, 1971

Genus ***Muricopsis*** Bucquoy & Dautzenberg, 1882

Subgenus ***Muricopsis*** Bucquoy & Dautzenberg, 1882

Type species by original designation: *Murex blainvillei* Payraudeau, 1826 (= *Murex cristatus* Brocchi, 1814). Recent; Mediterranean.

Muricopsis (Muricopsis) principensis **Rolán & Fernandes, 1991 Figs 1-8**

Muricopsis (Risomurex) principensis Rolán & Fernandes, 1991: 19, figs 7, 8, 15 & 18.

Type material: holotype 15.05/1112, Museo de Ciencias Naturales de Madrid.

Type locality: Bahia das Agulhas, Príncipe Island.

Muricopsis (M.) principensis is a rare species described from and endemic to Príncipe. The type material consists of the holotype and 2 paratypes. The color of the shell in the original material was described as black with the exception of the apex and the base (siphonal canal), which are white.

A few specimens were examined since then and all of them perfectly match the original description. Recently, however, one of us (SG) had the opportunity to collect a few additional specimens. They are similar to the holotype and the shell morphology of this species seems to be very stable with little variation in shape, size and sculpture, but it seems noteworthy to us to mention and to illustrate some color forms that have not previously been described.

A shell showing the typical color (Figs 1-2) was found together with an almost entirely black specimen, except the apex (Figs 3-4). While uniformly white specimens (Figs 5-6) were collected together with a specimen with a typical white apex and siphonal canal, but of which the main color is light brown instead of black (Figs 7-8). All these specimens were live collected in 2013.

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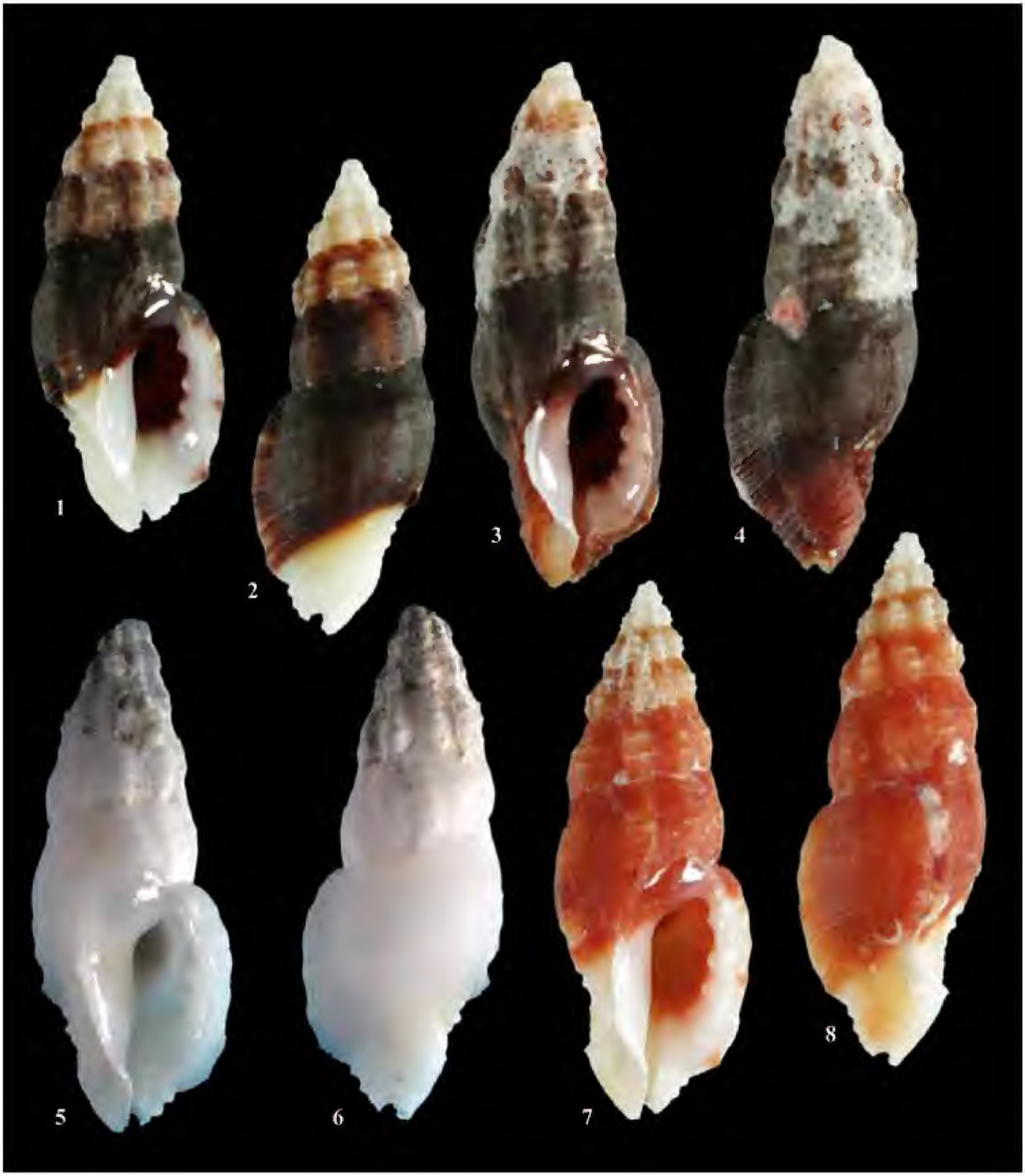


Figures (all coll. S. Gori)

1-4. Príncipe Is, Pedra Galé north, under rocks and corals, 10 m, 04 March 2013. **1-2.** 12.2 x 4.9 mm. **3-4.** 13.5 x 5.1 mm.

5-8. Príncipe Is, Ilheu dos Mosteiros, 15 m, 25 February 2013. **5-6.** 13.3 x 5.3 mm, **7-8.** 14.3 x 5.4 mm.

A day with Mitsuo Chino, President of the Tokyo Malacological Society

Kristina Joyce

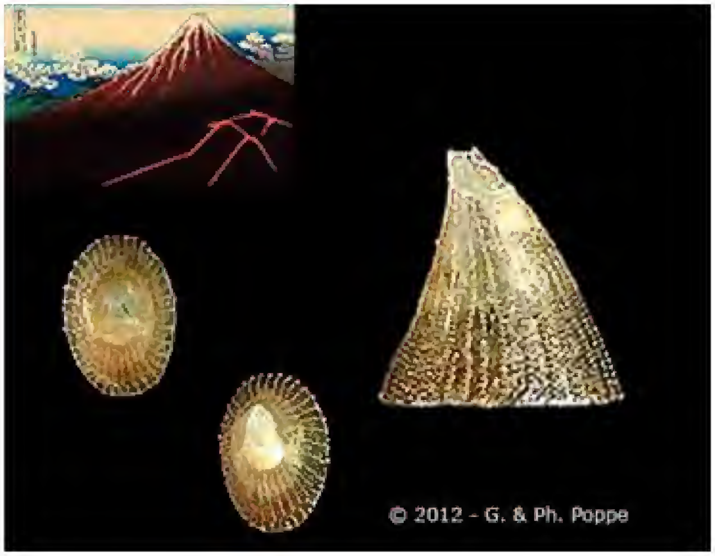
On a Tuesday, June 4, 2013, Kristina and Bill Joyce of the Boston Malacological Club traveled to a suburb near Yokohama, Japan, to meet with Mitsuo Chino, President of the Tokyo Malacological Society; he is also Vice President of the Malacological Society of Japan to represent the non-professional sector for better collaboration between scientists and local shell clubs. Passionate about molluscs, he is fluent in English, lives in a beautiful apartment, and devotes at least one room to molluscs. Larger shells are kept in his parents' home a short distance from the apartment.

About 10 a.m. the day began with tea and chocolates in the apartment where we talked about the differences and similarities between shell clubs in Boston and Tokyo. Both clubs are interested in their local shells but more so in Japan. Members in Boston do not speak Japanese generally and the same for English in Tokyo. The striking difference was the Japanese club's success in discovering and naming new species. As Mitsuo described the situation, many fisherman (not just in Japan, but worldwide) face a lack of income due to a host of problems. Fishermen will dredge for shells (especially micro shells) to earn additional income. Once the shells are delivered and examined, club members will select the shells to be saved and studied. The fishermen will then dredge for more of these specific shells that are sometimes rare and new species. After many such discoveries, Mitsuo is especially delighted with a 2.2 mm *Cornisepta monsfuji* Chino, 2009, which carries his authorship and resembles a snow covered Mt. Fuji - in Japan an important natural icon, which is now a UNESCO World Heritage Site. This mollusc was collected in deepwater mud off Akune, Kagoshima, Japan, and described in the *Venus* publication of the Japanese Malacological Society. Excellent photography in Japan makes observation of the beauty of small shells possible for a wide audience.

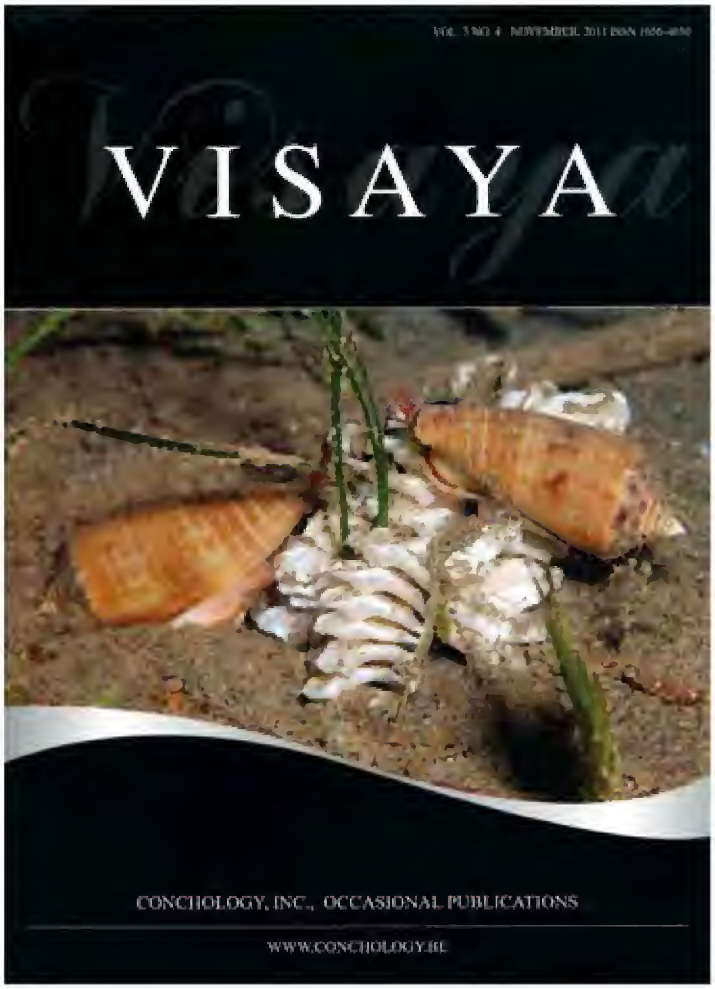
Over a generous tempura lunch at a local restaurant (Mitsuo's treat) conversation continued. He has a wife, Hiromi, two married grown children and five grandchildren, visits his mother in a nursing home, takes care of two family homes, is retired as an auditor from the Japanese insurance industry, and loves to travel, especially to collect molluscs and visit shell shows. He has been to most parts of the globe.

Once back in the apartment, Mitsuo shared books with beautiful color plates such as *World Seashells of Rarity and Beauty* published in 1991 by the National Science Museum in Tokyo; publications such as *Illustrations and annotated checklist of the molluscan specimens contained in the Sakurai Collection in the National Museum of Science and Nature Tokyo,* published in 1995, and many papers from *Visaya* describing some of the new species he has helped describe, such as A New Species of *Conopleura* (Gastropoda – Turridae) from the Philippine Islands, published in *Visaya*, Nov. 2011. Mitsuo also invited viewing of his land, sea, and freshwater shell collections. Especially noteworthy were the *Neptunea* and *Pleurotomaria* which were so beautiful and varied. Exquisite specimens of *Crenovolva* (*Rotaovula*) *hirohitoi* Cate & Azuma, 1973, dived from 60 meters in Izu, Shizuoka Prefecture, were just visible to the naked eye, but well photographed in a book entirely in Japanese (not trans-

Mitsuo Chino, President of the Tokyo Malacological Society, and the author.



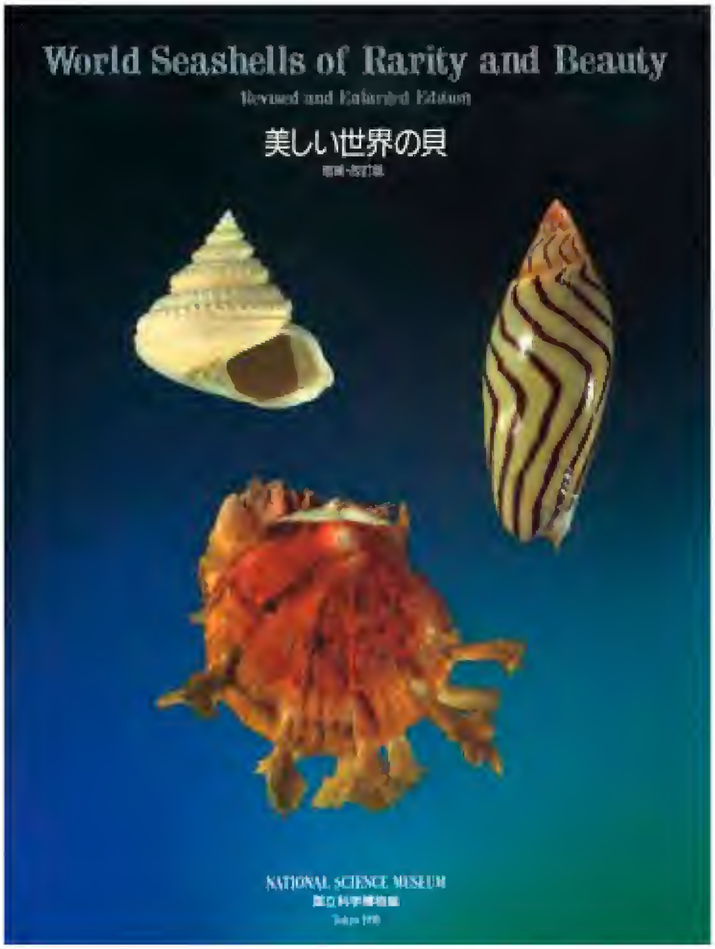
The rare *Cornisepta monsfuji* as shown on the web site www.conchology.be. Courtesy of Guido & Philippe Poppe.



The November 2011 issue of *Visaya* in which *Conopleura latiaxisa* Chino, 2011 is described.

Mitsuo Chino's specimen racks in his shell room.

For further information about Japanese shells, books, articles, and craft, contact Mitsuo Chino at mchino@tbj.t-com.ne.jp. His mailing address is 6-23-18-202, Arima, Miyamae-Ku, Kawasaki, 216-0003, Japan and Tel. & fax 81-44-861-6602.


World Seashells of Rarity and Beauty
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NATIONAL SCIENCE MUSEUM

The 1991 *World Seashells of Rarity and Beauty* published in Tokyo.

lated except for the shell nomenclature).

Mitsuo also showed us miniature shell sculptures of flora and fauna made by a friend who would like to market them outside of Japan. The figures are delicate, created without any cutting of the shells, and really enchanting. Examples of past holiday letters that Mitsuo writes every year to his global friends included a note that he has spoken in his club on "How shell lover child becomes adult for joyful shell life." He is now educating his grandchildren with trips to the National Museum of Nature and Science and there is some next generation interest in shells it seems.

This meaningful and informative day concluded with a drive to the train station for Kristina and Bill's return to their hotel in Tokyo. After many thanks and a hope to see Mitsuo in the USA, the Joyces felt privileged with this experience to be part of the world mollusc community.

Kristina Joyce
kris1shell@aol.com

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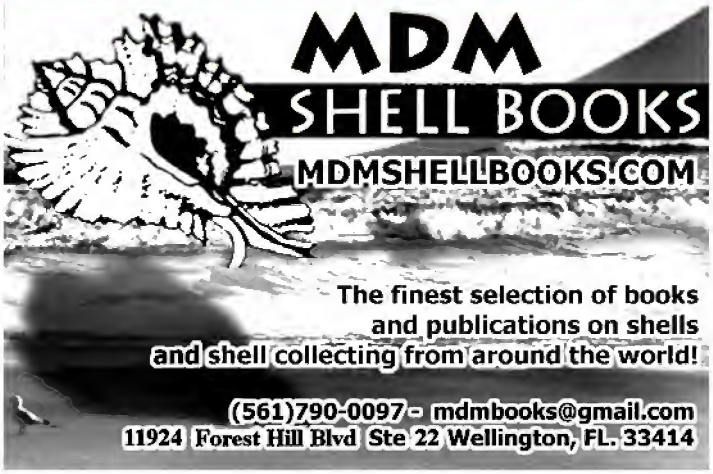
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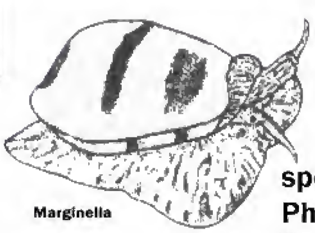

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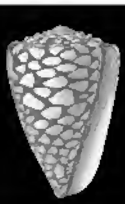

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SEP02

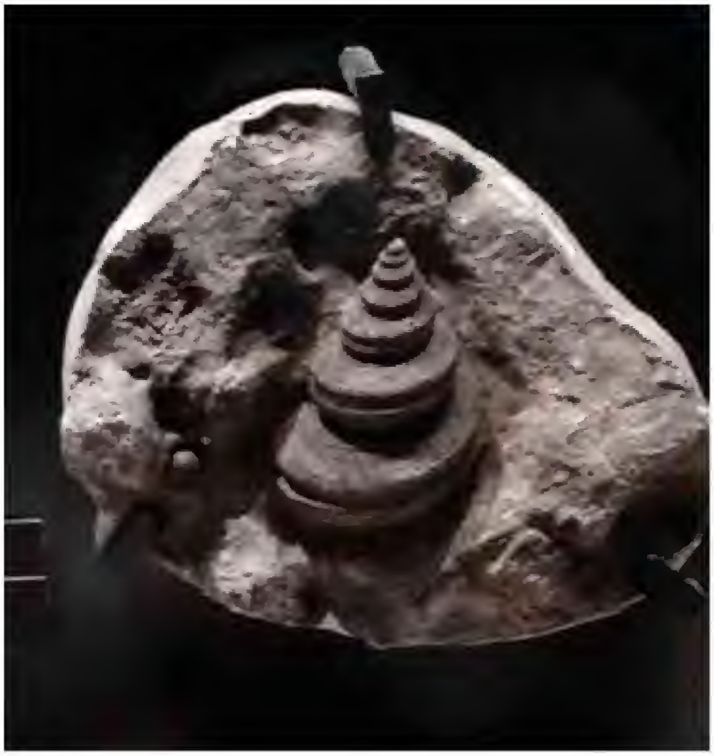
The shell collection of His Majesty The Emperor Showa of Japan

Kristina Joyce

The late Emperor Hirohito was born April 29, 1901, died January 7, 1989, and is known in Japan as The Emperor Showa for the era in which he lived. When he was a fifth grade student in 1913 at the Primary School Department of the Peers' School, he saw an enormous collection of shells at a private museum in Kyoto owned by Mr. Yoichiro Hirase, (1859-1925) a pioneer malacologist. This experience led the Emperor to eventually study marine biology and malacology. He carried out his work at the Biological Laboratory, Imperial Household, located in the Imperial Palace (in Tokyo), and in biological field laboratories built for invertebrate study on the grounds of the Imperial Summer Villas at Hayama and Suzaki on Sagami Bay. After his death, his entire collection and library were donated to the National Science Museum (now the National Museum of Nature and Science) and transferred to the Showa Memorial Institute, which was founded in the Tsukuba Branch of the museum in 1993 (four years after his death). [Tsukuba is about an hour and a half by train and bus from Tokyo.] Some facilities and collection rooms in the Tsukuba Branch of the National Museum of Nature and Science are open to the general public on one day of the year. Even then, the Showa Memorial Institute is not open to the public, but only to professional researchers. Dr. Kazunori Hasegawa is Senior Curator of Invertebrates (Mollusca) at the Showa Memorial Institute and is researching small gastropods. See *A Review of Bathyal Shell-bearing Gastropods in Sagami Bay*, Kazunori Hasegawa and Takashi Okutani, Mem. Natl. Mus. Nat. Sci., Tokyo, (47): 97-144, April 15, 2011.*

The Showa collection is housed in well-designed and kept rooms at the Institute. In one is the drag-net that the emperor employed with a boat in Sagami Bay, an important habitat because of its great diversity of marine fauna. There are various Mollusca with other flora and fauna, photographs, and art displayed in an exhibition room. In the special collections room, types and paratypes of various groups of animals are kept along with the soft parts. Dry shell specimens are preserved in a climate controlled environment, and special cabinets for specimens lock tightly together as a large unit. Once rolled apart, there are drawers with a clear front and inside, each specimen has its own

The National Museum of Nature and Science in Tokyo, Japan. Opened in 1871, it has had serveral names over the years (the present name dates from 2007). Much of the Emperor's collection is housed here and accessible by the public. Image from Wikipedia commons.



This is a fossil slit shell (Pleurotomariidae) in the museum, both genus and species unknown. Photo by author.

Two different sea life displays in the museum. The one on the left (from Wikipedia commons) is quite modern looking with fauna separated into phyla and electronically displayed educational text. The display on the right is a bit dated by modern standards, with portions of the emperor's collection on display. Photo by the author.

plastic box with computer data. In another area, the wet preservation room for example, nudibranchs have been recorded with hand paintings of original color and pattern, fixed in formalin, and then preserved in alcohol (these specimens are not usable for DNA studies). Also in the facility are the Emperor's books, papers, various publications, and the on-going work of the Institute; all are variously used to discover, describe, and photograph new species of mollusca.

In July, 1971, Drs. Tokubei Kuroda, Tadashige Habe, and Katsura Oyama published *The Sea Shells of Sagami Bay* from the Biological Laboratory in the Imperial Household, based on the collection compiled by the Emperor. This 741 page book with 121 plates (105 in color) describes, in English and Japanese, Mollusca named for the Emperor and also many that he studied. An expensive book (now at least $300) it is still available in Japan, on the web at Amazon, through inter-library loan, and at Harvard University (from an imperial gift). Inside the volume is the story of the slit shell, a deep water marine gastropod, long believed to be extinct. Beautiful examples of 20 million-year-old fossils (the family name *Pleurotomariidae* was primarily proposed by paleontologists) are on view in the National Museum of Nature and Science in Ueno Park, Tokyo. The slit on the last whorl of the shell is for elimination of waste from the mantle. Since the first more recent Japanese Pleurotomariid was discovered in Sagami Bay in 1887, there are now seven living species known from Japan: *Mikadotrochus hirasei, M. beyrichii, M. salmiana, M. gotoi, Entemnotrochus rumphii, Bayerotrochus teramachii,* and *B. diluculu*m. At the National Museum there was also a temporary exhibit on schistosomiasis, a devastating human disease spread from rice paddies where freshwater snails carry the parasite *Trematode schistosoma.* Photos, mollusk specimens, and descriptions of the Emperor's work were prominently featured in that exhibit.

The Japanese Imperial tradition of scholarly work is carried on by the eldest son and reigning Emperor, Akihito, an ichthyological researcher who has published more than 30 original articles in scientific journals and described new species. He has specialized in the taxonomy of the family Gobiidae. In 2005, a newly described goby was named *Exyrias akihito* in his honor. Crown Prince Naruhito, eldest son of Akihito, is interested in water policy and is the honorary president of the Third World Water Forum. He also gave the keynote address at the Fourth World Water Forum and a commemorative talk at the First Asia-Pacific Water Summit, "Humans and Water: From Japan to the Asia-Pacific Region."

Kristina Joyce
kris1shell@aol.com

*Additional reading:

Catalogues of the Collections in the Showa Memorial Institute, No. 1. – Type Specimens described in Publications from the Biological Laboratory, Imperial Household, Tokyo, Japan. Tokyo: National Science Museum: March 2002.

Hasegawa, Kazunori. 2009. *Upper Bathyal Gastropods of the Pacific Coast of Northern Honshu, Japan, Chiefly Collected by R/V Wakataka-maru.* Tokyo: National Museum of Nature and Science. May 2009.

World Seashells of Rarity and Beauty (Revised and Enlarged Edition). Tokyo: National Science Museum, 1991.

COA Convention 2013

Thomas Eichhorst

The 2013 convention of the Conchologists of America in Sarasota, Florida, is now history and for those who were unable to attend, you missed a really great event. I met new friends, touched base with old friends, and shared laughs and shell stories with both. The hard work and long hours put in by members of the Sarasota Shell Club, plus an excellent venue, plus help from quite a few COA volunteers, paid off in a wonderful convention with varied and exciting activities.

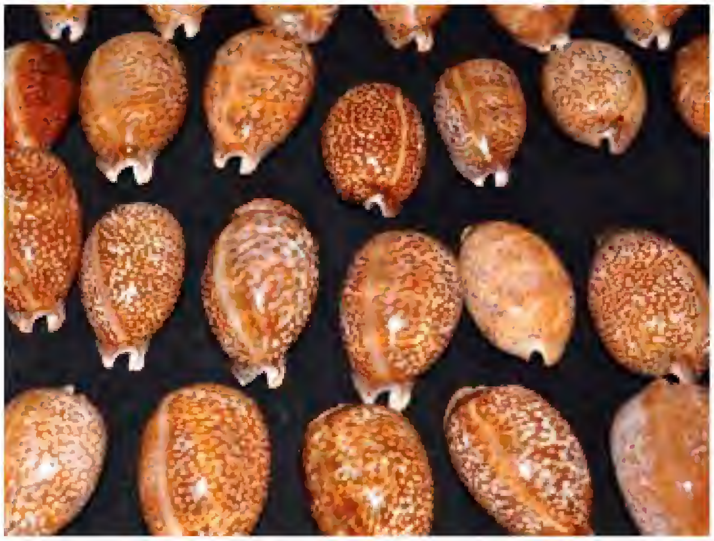
Although the actual convention did not begin until the opening ceremony on Wednesday morning, 17 July, there had already been three days of field trips and the welcome dinner on Tuesday evening. Sarasota is a circus town and was the winter home for the Ringling Brothers and Barnum & Bailey Circus from 1927 to 1959, when the circus moved 25 miles south to Venice, Florida. Subsequently, many smaller circuses like Sailor Circus and Circus Sarasota, have called Sarasota home. The town boasts a Circus Museum, a Circus Hall of Fame, and lots of circus-themed events and attractions. Where else would you find a downtown store with a full-sized statue of an Asian elephant at the doorway or a 25-foot statue commemorating the end of WWII? Thus it was no surprise that the welcome dinner featured quite a few COA members in circus regalia and the opening ceremony had a performance by Sailor Circus - jugglers, clowns, and unicycle performers from age 8 to adult.

The opening ceremony was followed by three days of shell programs by both amateur and professional conchologists and malacologists. These programs were interspersed with several silent auctions, workshops, more field trips, shell craft and art displays, and a large table piled with bags of shells for 25 cents a bag. Many of the "cheap shells" were quite common, but there were a few hidden treasures, especially for anyone interested in micro shells. I found four (maybe five) different species of Caecidae and well over two dozen species of Rissoidae.

We were again favored at the Oral Auction by the dulcet tones of COA auctioneers Jim Brunner and Paul Callomon. Over 100 auction items went in just a few hours and more than one person in the audience caught themselves bidding when they meant to scratch an ear. Everyone had a good time and all of the proceeds go toward the COA grant program, which again in 2013 gave away $15,000 in molluscan-based research grants.

The convention bourse featured over 40 dealers with displays of shells, books, and shell-related items in over 10,000 square feet with bright lights and full tables. There were tens of thousands of quality shells on display with pric-

One of several similar statues sized from life-size (in Oahu, Hawaii) to 25 feet tall (above, in Sarasota) by artist Seward Johnson. The work is based on one of two similar photographs: *V-J Day in Times Square* by Alfred Eisenstaedt or a less well known photograph by Victor Jorgensen (this is the one the artist says he used). The statue is titled with the double entendre "Unconditional Surrender." It was an unexpected surprise located about two blocks from the convention hotel.



A table full of *Cypraea cervus*, now more correctly termed *Macrocypraea cervus* (Linnaeus, 1771), on display at the bourse. These large handsome deer cowries are prized by collectors around the world. They are the largest cowrie (some in excess of 5 inches) and while not rare, they are not easy to collect without SCUBA gear. This along with the color and pattern ensure their popularity.

Chairperson Peggy Williams dressed for the circus. This event worked smoothly because of Peggy, along with Sarasota Shell Club members: Kathie Bishop, Ron Bopp, Donna Cassin, Linda Ervin, Lynn Gaulin, Linda Greiner, Judy Herman, John & Cheryl Jacobs, Duane Kauffmann, Nancy Marini, Sally Peppitoni, Homer Rhode, Dennis Sargent, and Doug Thompson.

es ranging from less than $1 to at least one *Cypraea* listed at "ten big ones" ($10,000). There was plenty of material for young collectors just starting out as well as rarities for advanced collectors looking for that special shell.

The closing evening banquet featured a talk by Dr. Henry Chaney (Director of Collections & Research, Santa Barbara Museum of Natural History and past President of COA) titled "The Best Shell Book Ever." His talk covered a number of shell books spanning the history of shell collecting and finally he presented his selection for the best shell book ever, Tucker Abbott's "Seashells of the World" (1962). Millions of people, young and old, have poured through this inexpensive, well-illustrated book and marveled at the wonders within. Dr. Chaney had several reasons why he chose this book, but suffice it to say, I would guess that most people reading this have not only read this little "Golden Nature Guide," but probably still own a copy or two.

The evening ended with the presentation of the COA *Neptunea* Awards for 2013. For service to COA and conchology, the awards were presented by COA Vice President Harry Lee to Dave and Lucille Green, Charles Rawlings, and Marlo Krisberg. Dr. Lee explained the history of the award to the audience and then why each of the awardees' special contributions were worthy of this award.

So that was the 2013 COA Convention. For those who attended, hopefully this will bring back some fond memories (after all, short term memory is an issue with some of us). For those who did not attend, this is what you missed. Want to get in on the action? Next year's COA convention is scheduled for 10-16 August 2014 at the Hilton in Wilmington, North Carolina. I hope to see you there.

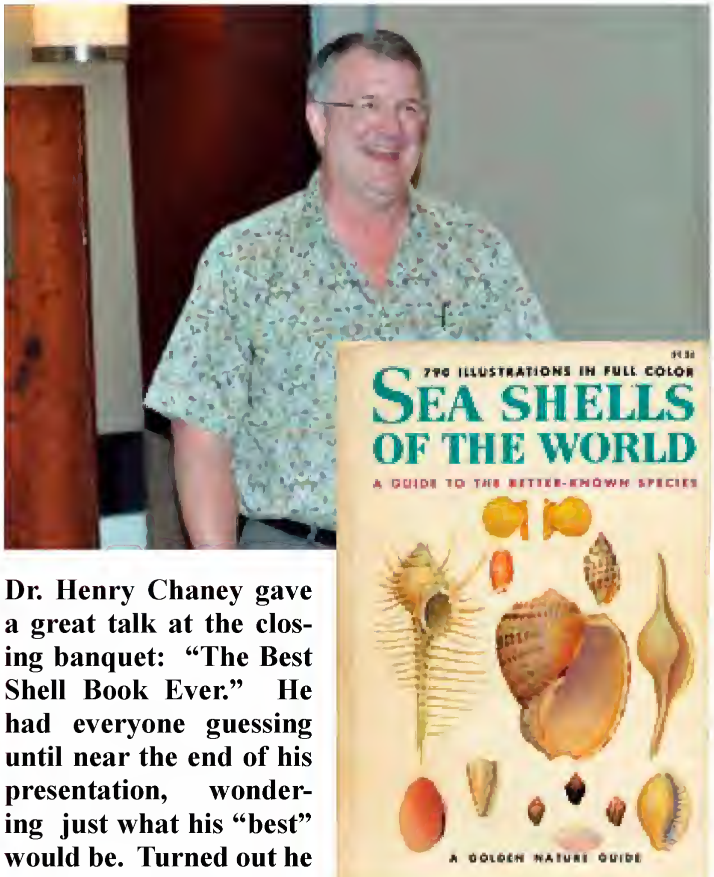
Bruce Neville from Texas A&M presents "Brachiopods, the Other Bivalves." Photo Ron Bopp.

Dennis Sargent (shell book author and photographer) presents "Photographing Shells." Photo by Ron Bopp.

Fossil shells from the SMR pit were dumped on a parking lot in Cortez on the final Sunday for folks who wanted to shell in comfort. Photo by Ron Bopp.

COA's very own organ grinder, Ron Bopp. Aside from his interest in shells, Ron collects organs from the 19th and early 20th centuries. The organ and Ron are real; the monkey, not so much. Photo by Jo Bopp.

Donald Dan, the impeccably dressed, always with a smile, supporter of COA for decades, COA Awards Chairman. Donald has made sure that shell clubs around the world get the COA Award on time for presentation at each shell show.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Dr. Henry Chaney gave a great talk at the closing banquet: "The Best Shell Book Ever." He had everyone guessing until near the end of his presentation, wondering just what his "best" would be. Turned out he favored Tucker Abbott's "Seashells of the World" (1962), for a number of reasons. To get to that conclusion, the audience was taken on a fascinating tour of shell books through the ages. Photo by Ron Bopp.

Paul Callomon (left) and Jim Brunner (right) were the auctioneers this year, as in quite a few years past. Their experience "working the crowd" proves for an entertaining evening and they always seem to bring in a bit more auction revenue than expected to help COA support the grant program.

2013 *Neptunea* Awards

Harry Lee

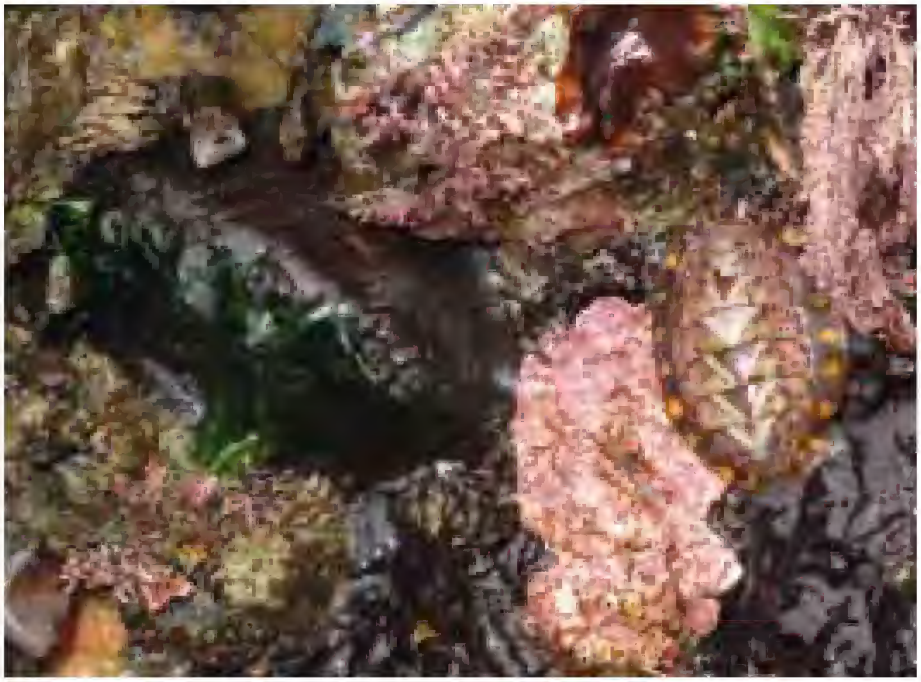
Marlo Krisberg - nomination (in part): "Operating pretty much outside the pale of organized conchology (although a member of the COA), Marlo has single-handedly succeeded in a passionate quest to demystify Florida conchology. His painstaking descriptions and superb photography have illuminated hundreds, maybe thousands, of visitors to his website "Let's Talk Seashells" (LTS). The combination of scientific excellence of this endeavor and its far-from-COA-mainstream-activity combine to make him an ideal candidate for the *Neptunea* Award in the spirit in which it was originally intended." Photo by Alan Gettleman.

Charles Rawlings (right, with Harry Lee) - nomination (in part): "Charles provided dozens of quality photographs of shells for use in *American Conchologist.* Many of these photos are of *in situ* specimens and quite a few have been the first such images of a particular species. Charles used many of his images for a book he wrote, "Living Shells" (2010). This is important because often authors will only release images for a fee. Charging a fee is actually quite reasonable as the images cost - the camera and equipment, the trips to exotic locales, and the time involved in collecting, cataloging, and sorting. Yet Charles provides all of his images free of charge to COA and with no restrictions on their use. His has been a valuable, although pretty much unsung, service to COA and I feel he deserves this nomination."

Dave & Lucille Green - nomination (in part): "Several times in the past I have nominated Dave & Lucille Green for the *Neptunea* Award for a variety of reasons. Over the years, they have given a huge amount of their time and talents to COA, both upfront helping with conventions and other activities, and behind the scenes working to improve our hobby and organization. So for 2013, I am nominating these most deserving COA members." Photo by Lucy Clampit.

Size matters: ocean acidification and warming alter metabolic scaling in Polyplacophora

Nicholas Carey (photos by author)



Two of the subject chitons in this study: *Katharina tunicata* (Wood, 1815) (left) and *Tonicella lineata* (Wood, 1815) (right). The black, mantle-covered *Katharina tunicata* on the left (commonly called the black Katy chiton, black leather chiton, black chiton, or leather chiton) is certainly easy to distinguish from the brightly colored *Tonicella lineata* on the right (commonly called the lined chiton).

Allometric scaling of metabolic rate with body mass is a long-studied physiological phenomenon, most commonly explained through the famous 'mouse-to-elephant' curve. Metabolic rates of organisms decrease proportional to body mass as they get larger. Proposed values for the mass scaling exponent in this equation include ⅔ and ¾ [1,2,3]. There is, however, ongoing debate over the models underpinning these values [4,5,6]. Recently it has been suggested that no universal scaling value exists and that the scaling relationship varies systematically with ecology and lifestyle traits of species [7,8]. One of these models, the Metabolic-Level Boundaries (MLB) hypothesis proposes that the value of the allometric scaling exponent shows systematic variation linked to patterns of metabolic rate and activity level. Additional research, including my own [9,10,11], has demonstrated not only that scaling of metabolism is a variable physiological parameter, but that it may be plastic to environmental factors, such as the changes in temperature and pH expected under future climate warming and ocean acidification.

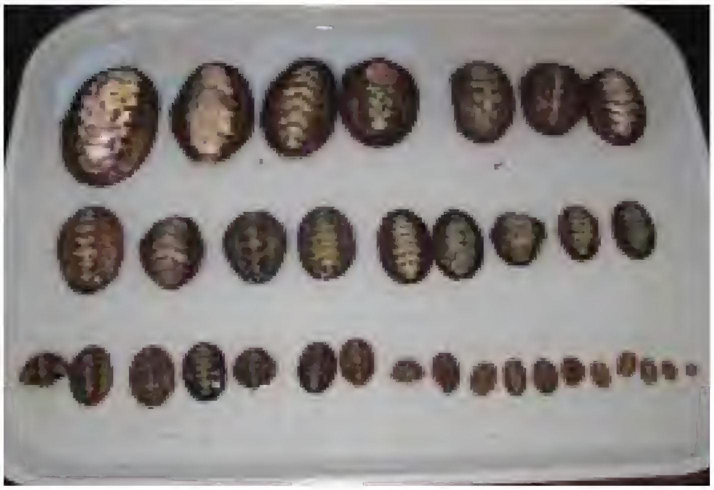
I am interested in metabolic scaling in the Polyplacophora. Chitons are a common component of marine communities and found worldwide, but their ecology and physiology are relatively understudied in comparison to other molluscan groups. The fauna in the eastern Pacific is particularly diverse, and species here display huge differences in body size. Some of the largest chiton species are found here, including *Katharina tunicata* (Wood, 1815), and the giant chiton *Cryptochiton stelleri* (Middendorff, 1847), colloquially known as the 'wandering meatloaf'.

During the summer of 2012 I conducted research, partly funded by a research grant from the Conchologists of America, at Friday Harbor Labs, University of Washington. This work looked at how different temperatures and seawater pH might affect the metabolic rates and the scaling of those rates with body mass in three chiton species; *Katharina tunicata, Mopalia muscosa* (Gould, 1846), and *Tonicella lineata* (Wood, 1815). These three chitons are common among the fauna of the eastern Pacific and have been shown in my previous work to have different metabolic scaling values that can be linked to lifestyles and metabolic rates [11]. The three species are also often found occurring together on the same substrates, but inhabit different niches by employing different feeding and activity strategies. The aims of the study were to;

1. explore the synergistic and antagonistic effects of temperature and pH on basal metabolism and allometric scaling of metabolic rates;
2. explicitly test one prediction of the MLB hypothesis: that as temperatures rise, will the value of the metabolic scaling exponent (b) decrease?

I collected full ontogenetic series of all three species, from individuals a few mm long to fully grown adults over 10 cm long (in *K. tunicata*). Groups of approximately 30 of each species (ca. 540 specimens in total) were acclimated over a period of one week to one of six different treatments; three temperatures and two levels of pH in a factorial design. Specimens were then examined for basal metabolic rates using optical oxygen probes. As expected higher tem-

***Katharina tunicata* in preparation for basal metabolic measurement.**



The *Mopalia muscosa* (Gould, 1846) collected for this experiment. Shell sizes in this sample range from approximately 5 mm to over 60 mm.

peratures caused increased metabolic rates in all three species. In addition, the value of the metabolic scaling exponent *b* decreased with increasing temperature in control pH, as predicted by the MLB hypothesis. In low pH, however, there was no clear trend in changes to the value of *b*. In fact, acidified conditions had variable effects on metabolic rates between species, and even within species at different temperatures. Low pH had no effect on metabolism in *T. lineata,* but it caused variable effects on metabolism in *M. muscosa* and *K. tunicata* at different temperatures: metabolic depression in low temperatures, but elevated metabolism at the medium temperature. These changes to metabolism were also associated with changes to the value of the scaling exponent. This is an indicator of a factor relatively overlooked in studies such as this, that the effects of stressors may not be equal across all body sizes of an organism. Larger individuals of *M. muscosa* and *K. tunicata* were more affected by low pH than smaller individuals. This evidence that *b* values are plastic and may be altered under changing environmental conditions demonstrates that species' responses to stressors may differ across postlarval ontogeny. Even among closely-related molluscan species, the responses to ocean acidification and temperature may be variable and idiosyncratic, and the synergistic effects of multiple stressors may be unpredictable.

The completed work is currently in review in *Proceedings of the Royal Society B*, and will also constitute a chapter of my PhD thesis.

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Northern Ireland.

Acknowledgements
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Shell collecting as seen by Gene Everson

Thomas Eichhorst

Gene Everson has graced the pages of this publication many times, usually because he has won yet another shell show award. In fact, a count showed that he has won the COA Award 40 times! A recent shell show display by Gene was again a winner, but this time I thought it would be better to show his display, rather than another picture of a smiling Gene holding his COA Award. This most recent winning display was 34 feet in length with 15 cases. The main reason I chose to show this display is its subject - shell collecting. Gene laid out in 34 feet a shell collecting primer, educational for beginners and just plain fun for the more advanced shell collector.

Gene has a BA in biology from the University of Louisville and began shell collecting in 1966. He entered his first shell show in 1973 and continues to present superb displays of a myriad of subjects. Whether his display is of a particular molluscan family, a genus, or a specific geographical area, the display is always first rate with eye-catching cases, correct nomenclature, clear graphics, and an overall artistic presentation.

Of his latest display, Gene states: "I tried to include in this exhibit everything a new sheller needs to know to get started in the hobby:

-where to find shells - from dealer shell lists & internet sites to different habitats for self-collecting;

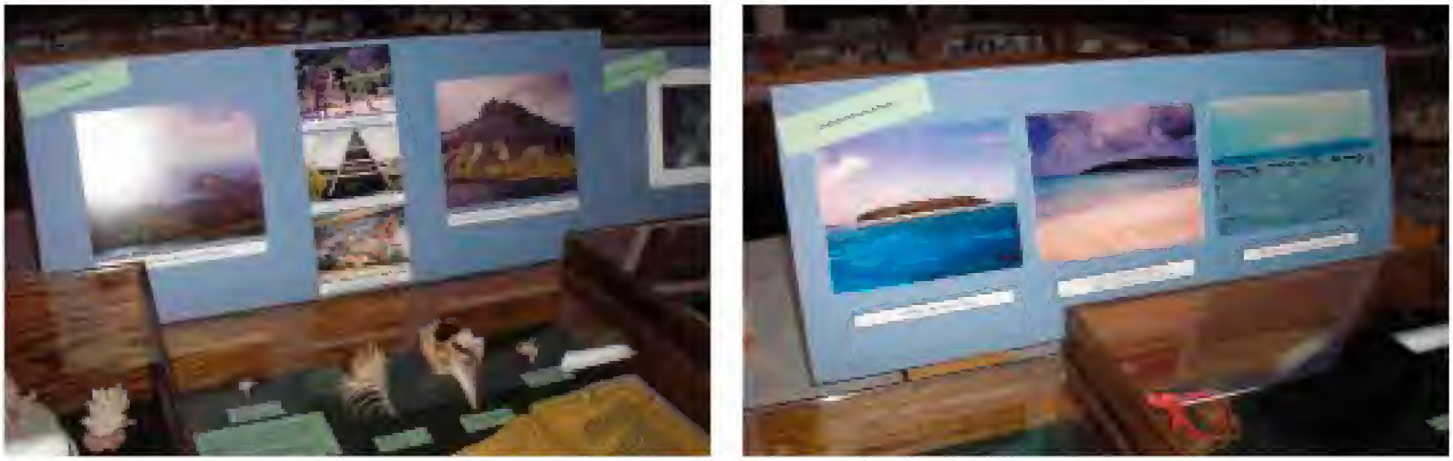
-information about snorkeling & diving, including examples of equipment, & shells that can be found;

-information about trapping, trawling, hand dredging, submersibles, & scallop dumps;

-information about cleaning and saving the periostracum, operculum & byssus, & storage (with examples or photos of cabinets, plastic bags & boxes);

-information about exhibiting, including: labeling; single, double, & triple matting; contrasting colors with the background material; required data; quality of specimens; examples of graphics that may be used; examples of citing references, classification & taxonomy."

Large colorful posters provide a general background for the shell collecting hobby as reflected in the display cases. Clockwise from upper left: 1. an overview and some benefits of shell collecting as a hobby, 2. different methods for collecting shells, 3. some shell collecting areas of the world, and 4. some cultural highlights of such areas.



Cataloging a shell collection.

Shells available through different collecting methods.

Shells available by snorkeling and the associated gear.

Shells available by SCUBA and the associated gear.

Shells available by trapping and other methods, and the associated gear.

Shells available by dredging and trawling, and the associated gear.

Different shell habitats, from sand to rock to coral.

Cleaning shells and the associated equipment.

More on cleaning shells with before and after examples.

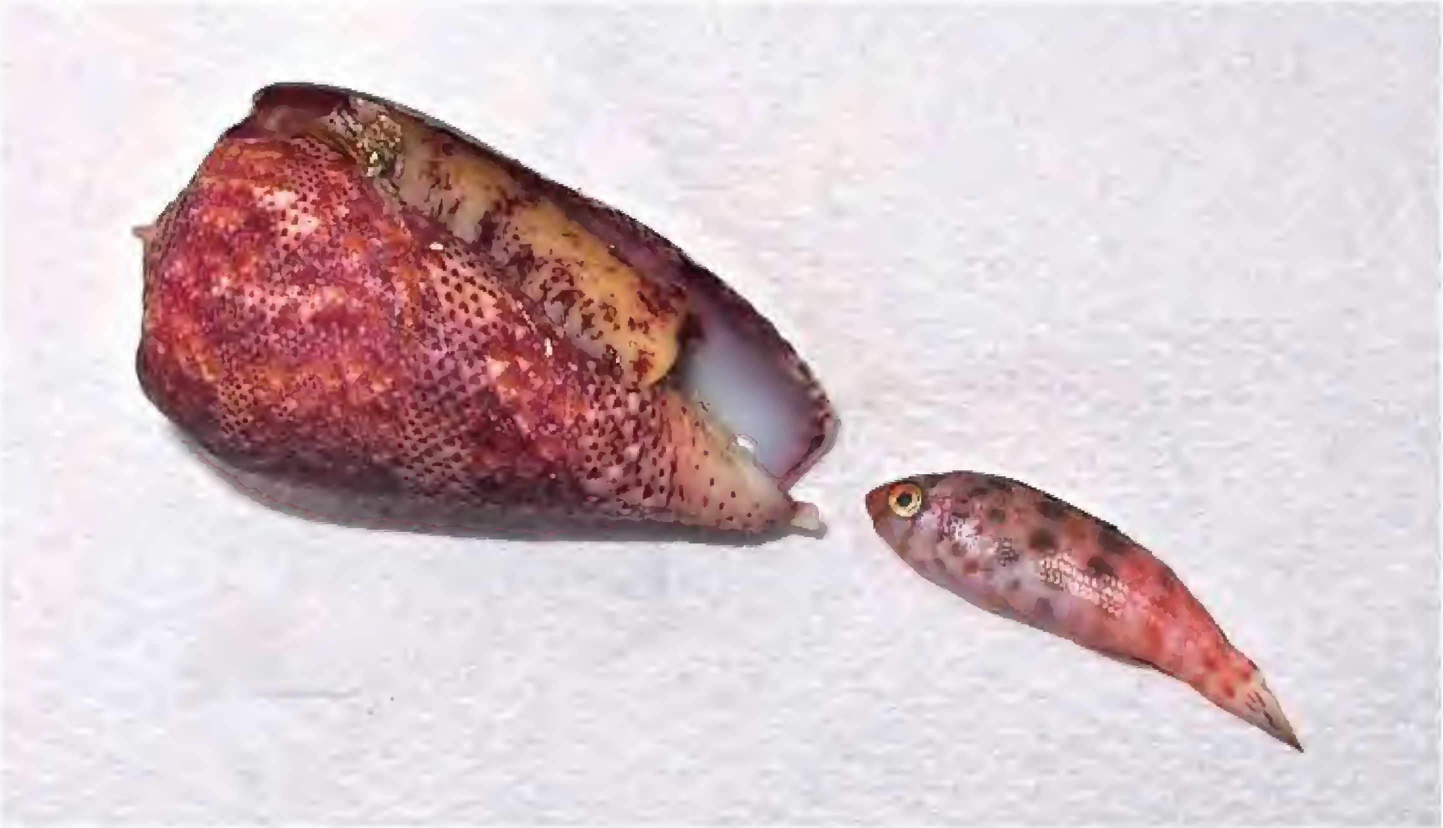
Preparation and storage of shells after cleaning.

Some guidelines for exhibiting shells.

The importance of up-to-date references. Obviously, "the best shell book ever" is a bit dated in this instance.

An interesting find

Paul Kanner



Marty Beals, Harry Bedell, Julian Lee and I made a trip to Nuka Hiva, Marquesas Islands, French Polynesia, last January. Our host and guide was Xavier Curvat who has a small dive operation. For me, the most memorable thing about the trip was a first hand observance of *Conus adamsonii* Broderip, 1836. The specimen illustrated above was collected by Xavier on a night dive and given to me. While examining the live shell it appeared to be shedding part of its foot. This was not the case. I continued to observe this as the *C. adamsonii* regurgitated a small fish that was the same color as the animal. It was obvious that this cone had hunted and eaten just before it was collected. I retained the shell and preserved the little fish in a vial of formaldehyde.

SHELL BOOKS

The malacological library of Richard E. Petit is being sold.
Lists are posted on http://conchologia.com.
Also on that web site are issues of *Conchologia Ingrata*,
which can be downloaded without charge.
Most issues are either about books or are reviews of books.

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NOVAPEX

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COA GRANT DONATION PROGRAM

2013 EDITION

SUPPORT OUR GRANT PROGRAM

- HAVE A GRANT IN YOUR NAME -
SINGLE DONATION OF $1,000.00 OR MORE

- HAVE YOUR NAME ON A PERPETUAL GRANT -
DONATION OF $10,000 OR MORE AS AN ENDOWMENT

Pursuant to the COA objectives, academic grants are given to numerous molluscan related research projects on an annual basis through a well-established grant review process. Most grants go to graduate students. For the current year 2013, eleven grants totaling $15,000.00, were approved (please see details inside.) Current grant money is largely drawn from COA operating income. Due to the fluctuating nature of our annual income, there is a need to expand our donation program to insure continued growth. To facilitate individual and group giving, a range of funding programs is made available by COA. Among other options, donors have the privilege to name grants of their choice.

► SHELL CLUB DONATIONS ARE MOST WELCOME ◄

HERE IS YOUR CONTACT:
DONALD DAN, Endowments Committee Chairman
6704 Overlook Drive, Ft Myers, FL 33919, USA
Tel.: (239) 481-6704 • e-mail: donaldan@aol.com

GRANTS AND DONATION GUIDELINES

COA's Grants are processed through a committee of three professional malacologists. This committee actively solicits and reviews grant applications. Selected applications are then presented annually to the COA's Board of Directors for approval. Individuals and groups, including shell clubs, can participate in this process through donations to COA:

GIFTS BELOW $1,000

All donations below $1,000, whether from organizations or individuals will be directed to COA's Walter Sage Fund, an established perpetual endowment, income from which is distributed for Board approved grants.

GIFTS ABOVE $1,000

For gifts of $1,000 or more, a donor has the option of specifying the money be entered into the Walter Sage Fund or be included in the general grant budget, in total or in part. The donor also has the option of naming a grant for that particular sum that is included in the general grant budget.

GIFTS ABOVE $10,000

A further option is to establish a named endowment by giving a sum of $10,000 or more. This amount may be given as a lump sum, or over period of up to ten years, with a minimum initial gift of at least $1,000. If someone wishes to start a named endowment but does not reach the $10,000 level within ten years, including accrued interest, the money will revert to the Walter Sage Fund.

Once an endowed fund has reached $10,000, COA will use half of the income to award grants, and reinvest the other half of the income to grow that endowment. As a conservative assumption, consider that a $10,000 fund earns 5% interest. The annual income will be $500, half of which can go to grant, and half of which is reinvested in the fund. This $10,000 endowment could therefore generate a $500 grant fund every other year, with incremental growth thereafter.

COA's by-laws have rules for the investment of funds controlled by the organization. Endowed funds will be pooled for investment purposes, but the principal and interest of each fund will be tracked separately. Donors may suggest that money be given to specific research or types of research. COA will try to match grants to the stated interests, but cannot guarantee exact match.

COA has a 501-C3 non-profit tax status, TAX ID: 112541695 US donors may claim tax deduction on money given to COA. Additional reading on our Grant Program is available on COA's web site at http://www.conchologistsofamerica.org

2013 COA GRANT AWARDS

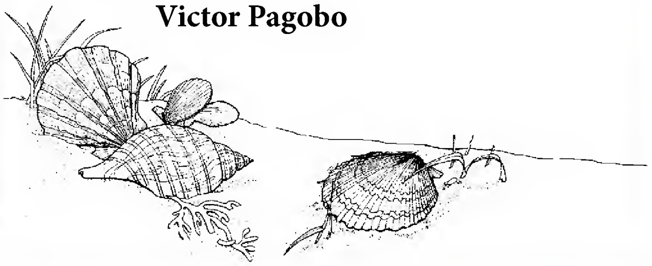
RECIPIENT	PROJECT TITLE	INSTITUTION	STUDENT	FUNDED AMOUNT
DOUGHERTY, Lindsey***	Mechanisms and behavior of flashing in *Ctenodes ales:* "disco clams"	University of California, Berkeley, CA, USA	Yes, PhD	$ 1,320.00
FRITTS-PENNIMAN, Allison	Genomic signatures of ecological speciation in a coral-associated nudibranch	University of California, Los Angeles, CA, USA	Yes, PhD	$ 700.00
JOHANNES, Edward	Phylogenetic analysis of *Juga* an *Pristinicola* in the Puget Sound Basin, Washington	Non-academic affiliation	Amateur	$ 1,500.00
JUDGE, Jenna*	The effects of substrate diversity on deep-sea wood fall community diversity: a focus on the molluscs	University of California, Berkeley, CA, USA	Yes, PhD	$ 1,300.00
LEE, Colin****	Neurobiology of satiation in *Melibe leonina*	Unisversity of New Hampshire, USA	Yes, MSc	$ 1,300.00
LEUNG, Kelley	The conservation status and phylogeography of Hawaiian Helicinidae: A diversity assessment	University of Hawaii, Manao, USA	Yes, MS	$ 1,500.00
MOTA, Ellori	Population stucture and ecological aspects of the heavily ezploited gastropoda, *Cassis tuberosa*, in a Brazilian no-take marine protected areas (MPA's) and fished areas: implication to MPA effectiveness	Universitad Estadual da Paraiba, Brazil	Yes, MSc	$ 1,440.00
STUMP, Andrew	Detection of freshwater mussels using environmental DNA and next generation sequencing technology	Eastern Kentucky University, USA	Yes, MSc	$ 1,500.00
TEICHBOLTZ, Paula	Consequances of developmental mode polymorphism on gene flow and population structure in the pyramidellid pyramidellid snail *Boonea impressa*	University of Michigan, USA	Yes, PhD	$ 1,500.00
WEBSTER, Nicole**	Rib formation in *Nucella ostrina:* mantle morphology	Universaity of Alberta, Canada	Yes, PhD	$ 1,490.00
YOUNG, Bonnie	Systematics and life hsitory of invasive *Euglandina rosea* (Spiraxidae) on Oahu: implications for control	University of Hawaii, Manao, USA	Yes, MSc	$ 1,450.00
			TOTAL	$ 15,000.00

SPECIAL AWARDS:
*** Paul & Heather Johnson Award**
**** Clench & Turner Memorial Award (Boston Malacological Society)**
***** Jacksonville Shell Club Award**
****** Doris Underwood Award**

ACADEMIC GRANTS COMMITTEE: Daniel Geiger (Chairman), Paula Mikkelsen, Tim Pierce

In Memoriam:

Sybil B. Burger
Dr Dick Kilburn
Victor Pagobo



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German Shell Collector's Club
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Klaus Kittel
Sonnenrain 10
D-97859 Wiesthal
e-mail: klaus_kittel@hotmail.com

Sybil B. Burger with Texan shelling friends, from left to right: Jean Dickman, Sybil Burger, Rozelle Wilson, and Cynthia Beck. Sybil literally traveled the world in search of new and exciting shells (and maybe some adventure).

Sybil started shell collecting after a trip to Galveston, Texas. By the time I met her she was a resident of Albuquerque, New Mexico, and had traveled to every continent in the world - including Antarctica. Early on she volunteered at the Rio Grande Zoo and thus her children were not at all surprised when they came home from school to find a new addition to the household that required bottle feeding and constant care. Such additions included young leopards, a tiger, and a baby cougar. Later she served as a docent at the New Mexico Museum of Natural History. No more great cats, but fascinating behind the scenes visits for her children.

Sybil attended COA conventions until her health prevented such activity. At these conventions the Albuquerque shellers were Sybil, Pat Burke, Bruce Neville, and me. At the bar in the evenings, Pat drank her bourbon straight, Sybil with a touch of ice, and both Bruce and I with plenty of water. Sybil was funny, opinionated, honest, forthright, and good company. She will be missed by all of us who knew her.

Tom Eichhorst

"Available" vs. "Valid"

A recent paper in *American Conchologist* referred to both the "official list" and the "Official Index of Rejected and Invalid Specific Names in Zoology." The difference in capitalization was obviously accidental as there are two different lists. From various conversations and correspondence it is obvious that there is confusion among many collectors about the nomenclatural meanings of "available" and "valid," which are at the core of these two lists whose existence and use may not be clear to those not intimate with the International Code of Zoological Nomenclature.

In zoological nomenclature a name that is **available** is one legitimately introduced into the literature and as such may be used as the [valid] name for a species. A **valid** name is the correct name, in an author's judgment, for a species. A name may be available, having been properly described, but is invalid when treated as a junior synonym. When placed in synonymy, however, a name remains available and may be removed from synonymy and used as valid at any time an author considers it to not be a synonym.

A name may be unavailable by virtue of being a junior homonym or other reason (pre-Linnean, *nomen nudum*, etc.) including declaration by the International Commission on Zoological Nomenclature. A name that is objectively invalid may be made valid only by action of the Commission.

At the risk of added confusion, it can be stated that availability is objective (must meet certain criteria) while validity is subjective (systematist's opinion). In any case, using the two terms interchangeably is always incorrect and should be avoided.

COA 2014
August 11-15, 2014
Wilmington, NC
Donations Needed

The 2014 Convention is in need of shells and shell related items that can be used for raffle items, silent suctions, or door prizes, as well as specimen-grade shells for the oral auction. Shell donations should include pertinent data (name and locality.) Donations are tax deductible and help support CIA grants and research. Shell contributions and other items should be sent to:

Everett Long
422 Shoreline Dr.
Cedar Point, NC 28584
nlong3@earthlink.net

Financial donations are accepted as well and help offset the expense of awards and other convention necessities. Categories for financial donations are:

Ocracoke	$10-99
Hatteras	$100-199
Cape Lookout	$200+

Financial contributions should be sent to:

Jeannette Tysor
5100 Yates Mill Pond Rd
Raleigh, NC 27606
jhtysor@aol.com

At the recent COA Convention in Sarasota a number of vendors and individuals generously donated shells and other items for the 2014 event.

Thank you to:

Warren Graff	Boston Malacological Club
Vic Dungog	Vic-Mar Shells
Brian Hayes	Algoa Bay Specimen Shells
Maria Demertzis	Aegean Shells
Jim Cordy	Astronaut Trail Shell Club
Rick Negus	Rick Negus Specimen Shells
Ed, Gayle & Branden Nieburger	Boston Malacological Club
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Al, Bev and Neal Deynzer	Showcase Shells
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Hugh Morrison & Simone Pfuetzner	Australian Seashells
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Steven Ko	C & S Shell Cabinet
Marcus & Jose Coltro	Femorale
Bob & JuYing Janowsky	MdM Books
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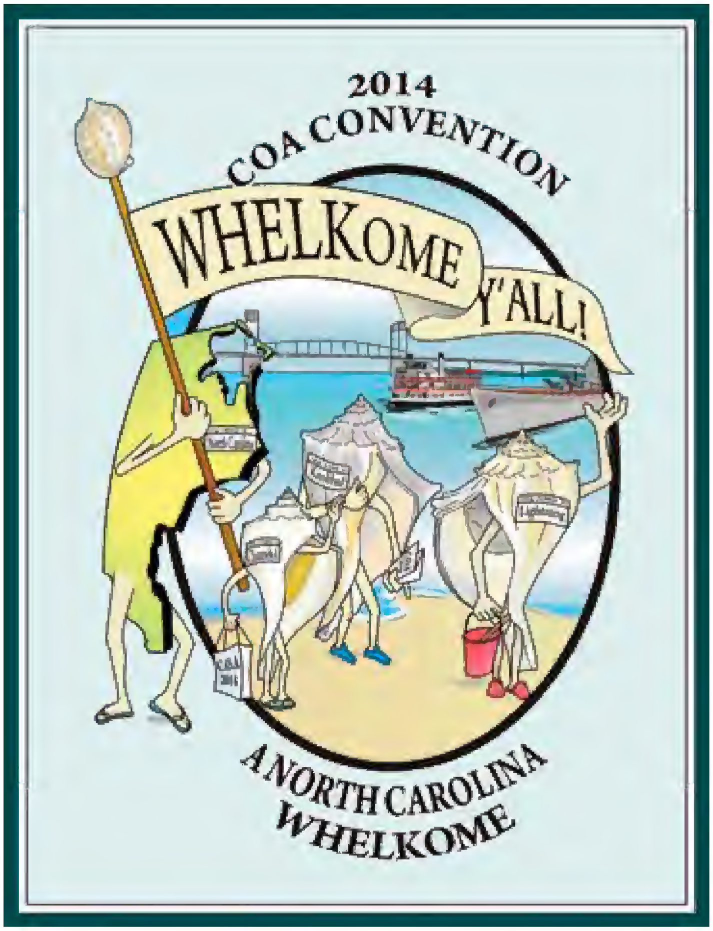
Dennis Sargent	
Donald Dan	



CONVENTION HOTEL

Hilton Wilmington Riverside

Located in the heart of Downtown Wilmington along the Cape Fear River boardwalk with on-site restaurants and within walking distance of popular attractions, shopping and entertainment.

Our convention rate is $114 (plus 13% tax) for 2 in a room; $10 for each additional adult. The guaranteed rate is good from August 7 through the night of August 18, 2014. Complimentary overnight parking is included. This special rate only applies to reservations made no later than Saturday, July 12, 2014.

Hilton Wilmington Riverside
Local: (910) 763-5900
Toll Free: 1-888-324-8170 (US & Canada only)

Hilton Worldwide Reservations
1-800-445-8667

Reservations may be made after Sept. 1, 2013 at the numbers above or on-line at www.wilmingtonhilton.com. Mention the Conchologists of America to receive the special rate.

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Cedar Point, NC 28584

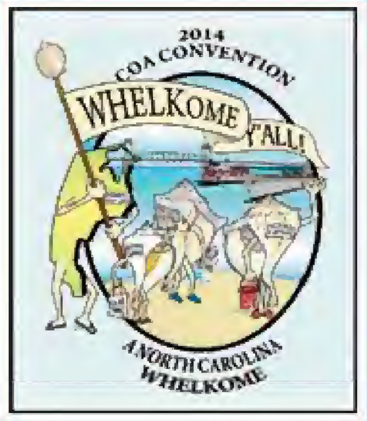
Registration Forms: Future posting of 2014 COA convention registration forms will be on **www.conchologistsofamerica.com**

Semicassis

granulata

In 1965 members of the NC Shell Club who were descendents of the early Scot settlers banded together to support the Scotch Bonnet as the State Shell.

COA 2014
WILMINGTON, NC



August 11-15, 2014

With field trips August 9 and 10

Hosted by the

North Carolina Shell Club

TENTATIVE SCHEDULE

Sat.	09	Field Trips Dive Trip Mansions Tour Fort Fisher/Aquarium Eco/Picnic Cruise - evening
Sun.	10	Field Trips Bob Jenkins History Tour Airlie Gardens/Art Museum Henrietta Dinner Cruise
Mon.	11	Registration Silent Auction Opening Ceremonies Programs Welcome Party
Tues.	12	Silent Auctions Programs Oral Auction
Wed.	13	Silent Auctions Programs Banquet
Thur.	14	Bourse
Fri.	15	Bourse

EVENING CRUISES

Saturday

Evening eco tour of the Black River with Capt. Doug. On-board picnic.

Sunday

Dinner cruise on the Henrietta.

TOURS & FIELD TRIPS

DIVE one of the many wrecks in the Graveyard of the Atlantic.

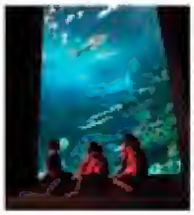
HISTORY
Learn of Wilmington's past on a tour with renowned local historian Bob Jenkins.

Burgwin-Wright House (1770)

OLD HOMES
Tour 3 notable mansions built between 1770 and 1861.

AIRLIE GARDENS and the CAMERON ART MUSEUM

The butterfly house at Airlie



AQUARIUM/FORT FISHER
A State aquarium is located near the Civil War historic site of Fort Fisher, protector of the last Atlantic port open to the Confederacy.

MINI SHELL SHOW

MINI SHELL SHOW
Enter a single or small group of shells, picture or craft

Trophy

CATEGORIES
- Best *Neptunia lyrata*
- A Single Beach Collected Shell
- A shell or small group from the Carolinian Province
- A Single Salt Water Shell from any Ocean
- A Freshwater Shell
- The Most Bizarre Freak Shell
- A Sailors Valentine under 10 inches
- Shell Photograph
- Craft Using Shells (not a Sailor's Valentine)
- Art Depicting Shells

WELCOME PARTY

The North Carolina State Shell, the Scotch Bonnet, was chosen to honor the strong Scots-Irish heritage of the State and particularly of the Wilmington - Cape Fear River valley area where so many settled.

So pack your plaids - kilts, skirts, sashes, scarfs, knee socks, caps, ties or anything else for the Monday night Welcome Party and

Let's Have

A Scotch Bonnet Fling

Prizes will be given for best costume.

See YOU Monday night.

The Carolina Tartan is the official State Tartan of both North and South Carolina

Vol. 41, No. 4, Dec 2013
thomas@nerite.com www.conchologistsofamerica.org

American CONCHOLOGIST

Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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MEMBERSHIP is for the calendar year, January-December, late memberships are retroactive to January. 2010 DUES: $25; postal surcharge: USA none ($5 additional for USA first class), $5 for Canada and Mexico (total of $30), $15 for all other countries (total of $40). New members apply to Doris Underwood, Membership Director. Please pay in U.S. dollars ($), or with a check on a U.S. bank with Transit Enrouting and Account Numbers printed at the bottom, or with money order. Make checks payable to: CONCHOLOGISTS OF AMERICA. Notify Membership Director with change of address.

BACK ISSUES are available from Doris Underwood, Membership Director. Prices: prior to 1999, $3 each, 2000 to 2008 $4 each, 2009 to current, $5 each; postage extra.

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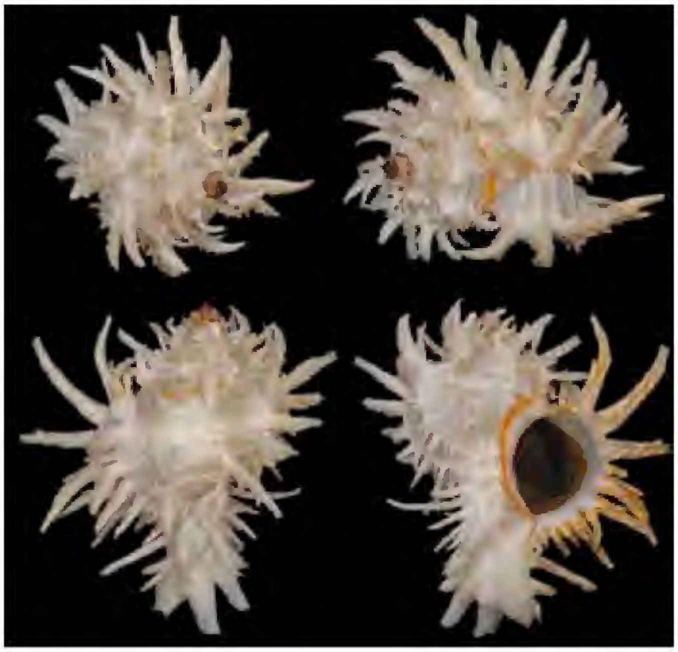
Front Cover: *Hexaplex cichoreum* (Gmelin, 1791), the endive murex, 117 mm, the Philippines. This unusual specimen has 10 varices rather than the typical six or even seven per whorl. This species can have short or long spines and endless variations of pattern with white, brown, and black predominating. The aperture is often tinged with pink, more rarely orange as in this specimen.

Back Cover: landsnails of the genus *Asperitas* from Indonesia, as photographed by Nuimal Bahar. Shells in this colorful group display any number of colors, often on a single specimen that has colors gradually changing from spire to aperture.

Editor's comments: We start with the cover this time. This *Hexaplex cichoreum* is a rather fancy specimen of an extremely variable species. This one seems to have outdone itself, however. The genus *Hexaplex* is named for the six varices or costae on each whorl of the shell. This specimen has 10 varices on the final whorl. It was purchased from the C&S Shell Cabinet Auction at www.shellcabinet.com in November 2013. The image below is from C&S.



We have two short articles from Emilio García and a fun travel piece by Karen VanderVen, both long time contributors to this magazine - thank you both. We also welcome a new author; Andre Meredith from South Africa, discusses the genus *Harpago*. Then a name we have not seen for a while, Moshe Erlendur Okon, is back, this time with what promises to be a continuing series of short articles on world record shells. Lindsey T. Groves updates everyone on the annual meeting of SCUM, and Donald Dan provides us with the shell show schedule for 2014. We recognize and congratulate some winners of the COA Award, including a couple who are well-known to COA members (Jim & Linda Brunner) and a new face from Britain (Simon Taylor). There are two short pieces of interest. The first is an unusual "shell house" in Mexico, and the second is a report on the longest lived mollusk and maybe longest lived animal in the world. Finally a few words about what promises to be a really exciting 2014 COA Convention in Wilmington, North Carolina. That finishes off 2013, any submissions to start off 2014 would be **most** welcome.

Tom Eichhorst

On the generic placement and identity of *Timbellus phaneus* (Dall, 1889) and *T. havanensis* (E. H. Vokes, 1970) (Gastropoda: Muricidae)

Emilio F. García

This little project began when Frank Frumar, a well-known collector who specializes in Gulf of Mexico gastropods, offered me some specimens of "*Pterynotus*" *phaneus* that he had dredged southwest of Key West, Florida, in 2006. During our phone conversation when the offer was made, Frank warned me that he was not sure of his identification and that they might be *T. havanensis*. That is when I decided to take a closer look at the literature and at the specimens available to me.

Timbellus phaneus and *T. havanensis* are rare in collections because of their deep-water habitat (*ca.* 300-500 m). Although these species may not be in everyone's cabinet, I thought they might be of interest to the readers of *American Conchologist* because of their exquisite elegant beauty and their sometimes-confusing similarity.

These two species have in the past been placed in a group of *Pterynotus s.l.* with thin delicate shells and less scabrous surface ornamentation. De Gregorio (1885, p. 275) proposed the subgenus *Timbellus* for this group without assigning a type. Vokes (1964:14) did so later, designating *Murex latifolius* Bellardi, 1872, as the type species. Vokes noted this taxon was "very close" to *Murex tristichus* Dall; however, she considered *Timbellus* and other proposed taxa to be "too closely related to *Murex pinnatus* [the type species of *Pterynotus* s.s.] to be supraspecifically differentiated" (1964:14). This conclusion was also reached by Harasewych & Jensen (1979:4) and reiterated by Vokes (1992:9).

In 2010 Barco *et al.* published the results of their extensive phylogenetic studies in the Muricidae, stating that "*Pterynotus* appears to be polyphyletic" (2010: 1037). Barco *et al.* had managed to do molecular work on *Pterynotus fulgens* Houart, 1988, an Indo-Pacific species that falls in the *latifolius/phaneus/havanensis* group. They concluded that "Supported by the position of *P. fulgens* in our topologies, we advance the hypothesis that at least two unrelated lineages have commonly been included in *Pterynotus*: a first group closely related to *Pterymachia*, includes *P. elongatus* and all the species with a sculptural pattern similar to the type species (*P. pinnatus*); and a second group including *P. fulgens* and probably some Western [*sic*] Atlantic species (R. Houart, unpublished data)." This second group is De Gregorio's *Timbellus*.

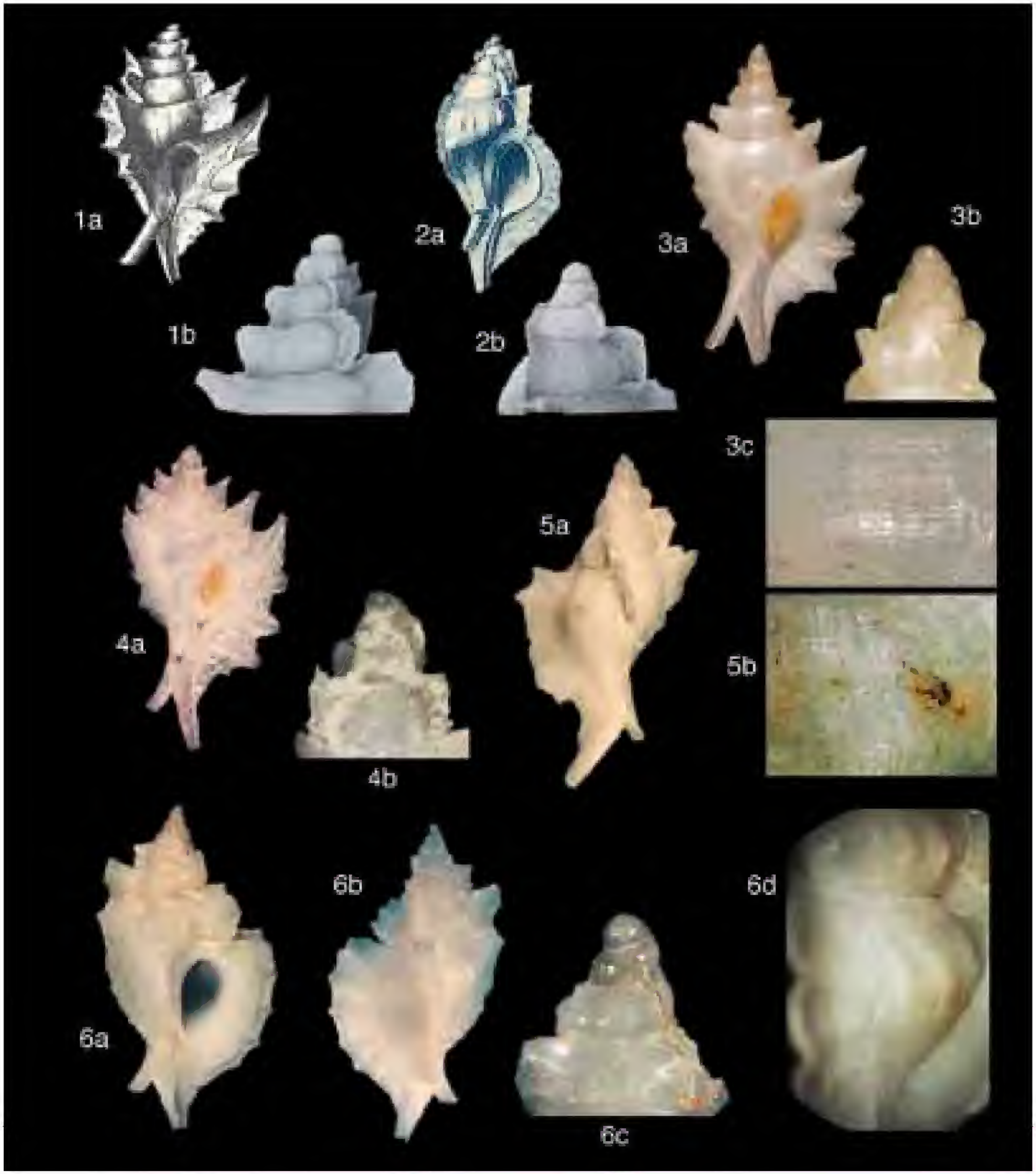
That the group of winged murices might be polyphyletic is not hard to accept, given the prevalence of wings in the family Muricidae as a whole. Consider the convergence of *Pteropurpura* and *Ceratostoma* (in the Ocenebrinae) and *Siratus alabaster* and *S. beauii* in the Muricinae. It seems that wings, like spines, are evolutionarily a good idea.

Merle *et al.* (2011), based on the differences first elaborated by Harasewych & Jensen (1979) and Vokes (1992), elevated *Timbellus* to the generic level and placed five "species groups" in that genus; two of these refer exclusively to fossil and/or Indo-Pacific taxa and are not treated here. The species group *latifolius/phaneus/havanensis/fulgens*, which conform to the original characters of *Timbellus*, as defined by De Gregorio, is their species group 1; the two other Recent species groups are represented by *Timbellus phyllopterus* (Group 2) and *T. guesti* (Group 5).

The authors explain the congeneric grouping of *phaneus/phyllopterus/guesti* under *Timbellus* as follows: "The three species groups display some differences with the "species group of *P. phaneus*," but they are minor and, for instance, do not suggest the need of subgeneric distinction. For these reasons we place …[these] species groups in the genus *Timbellus*" (2011:118).

The electronic database WoRMS (Appeltans *et al.*, 2011), following Merle et al., assigns 7 worldwide muricid species to *Pterynotus (s.s.)*, with 8 species assigned to the subgenus *Pterymarchia* and 24 to *Timbellus*. As one looks through the lists, however, one wonders how can *Murex latifolius* Bellardi, the type species of *Timbellus* and "very close to *M. tristichus* Dall" (Vokes, 1964:15) be congeneric with *Timbellus miyokoae* (Kosuge, 1979); or how the latter is now separated from its former congener *Pterynotus loebbeckei* (Kobelt, 1979). Barco *et al.* suggest that *Pterynotus* "appears to be polyphyletic" and that there are "at least two" unrelated lineages, but do these groups, other than Group 1 (*Timbellus s.s.*) and perhaps Group 5 (*T. guesti* species group) all belong to the same lineage? Taking into account that the placement of all species in *Timbellus* is based mostly on a non-scabrous shell morphology and that the placing in supraspecific taxa is so subjective, one has to wonder.

Recently, Houart (2012) examined material from the western Pacific and placed nine species in the genus *Timbellus*. These species conform to the original interpretation of *Timbellus* (Merle *et al.*'s group 1) as perceived by De Gregorio, Vokes, and Harasewych & Jensen, but also include taxa in the *Timbellus guesti* species group of which the well-



1 a-b. ***Timbellus havanensis*** **(Vokes, 1970), holotype of *P. tristichus* (Dall, 1889), off Havana, Cuba, 444-823 m, 15.5 mm. 2 a-b. *Timbellus phaneus* (Dall, 1890), holotype, off St. Augustine, Florida, 794 m, 16.9 mm. 3 a-c. *Timbellus havanensis* (Vokes, 1970), dredged SW of Key West, Florida, 229 m, 16.6 mm. 4 a-b. *Timbellus havanensis* (Vokes, 1970), dredged SW of Key West, Florida, 229 m, 14.9 mm. 5 a-b. *Timbellus phaneus* (Dall 1889), dredged SW of Key West, Florida, 274 m, 18.7 mm. 6 a-d. *Timbellus phaneus* (Dall 1889), dredged south of Marquesas Keys, Florida, 198 m, 20.4 mm.**

known western Pacific species *Timbellus vespertilio* forms part.

If one considers the DNA evidence of Barco *et al.* in regards to "*Pterynotus*" *fulgens* Houart, another member of this narrowly defined Group 1, there seems to be enough evidence to use *Timbellus* as a valid, separate genus, which is why I use it here for *Timbellus phaneus* and *T. havanensis*.

And now species-level specifics. Please note that supraspecific names used below are those originally used by the respective authors but that they have now been placed in *Timbellus*.

In his "Blake" report (1889), Dall consecutively describes two muricid species as *Murex* (*Pteronotus*) *phaneus* (p. 291) and *M.* (*Pteronotus*) *tristichus* (p. 292). He illustrates *M. (P.) tristichus* with a fine image (reproduced in fig. 1a) but the illustration of *M. (P.) phaneus* does not appear until 1890 (reproduced in fig. 2a). Vokes found *Murex* (*P*). *tristichus* to be preoccupied by *Murex tristichus* Beyrich, and re-named it *Pterynotus havanensis* (1970:13).

In 1893 Katharine Bush described, in the Bulletin of the Museum of Comparative Zoology, from a single specimen, a small muricid similar to the two species described by Dall; she named it *Murex (Pteronotus) pygmaeus*. Once again Vokes (1970:14) realized that this name was preoccupied by *Muricites pygmaeus* Schlotheim and re-named it *Pterynotus bushae*.

In 1979 Harasewych & Jensen published a review of the subgenus *Pterynotus s.s.* in the western Atlantic, proposing that *Pterynotus triptichus* and *P. pygmaeus* (and therefore *P. havanensis* and *P. bushae*) were junior synonyms of *P. phaneus*, a conclusion that had been reached earlier by Abbott (1974) and Radwin & D'Attilio (1976).

Vokes (1992), in later reviewing this synonymy, states: "I accept the synonymy of *P. bushae* and *P. phaneus*; however, there is a fundamental difference between these two and the third species, *P. havanensis*, in that the early teleoconch whorls in the latter have six lamellar varices per whorl …in contrast to only three in the others. Also, the shell ornamentation is more pronounced in *P. phaneus*/*bushae*." With permission of the author I have copied in the plate her splendid images of the protoconch of the holotypes of *Pterynotus havanensis* (fig, 1b) and *P. phaneus* (fig. 2b). I am also showing in the plate images of some of the specimens in my collection representing both taxa.

Figures 3a and 4a show two specimens of *Timbellus havanensis* dredged by Frank Frumar off Key West Florida, with their respective early teleoconch whorls (figs. 3b, 4b) sporting the extra lamellar varices indicated by Vokes. Figures 6a-6b show a specimen of *Timbellus phaneus*, its early teleoconch whorls (6c) showing only three varices.

In his original description Dall lists as a significant difference between his two taxa the three intervarical nodes that appear in *T. phaneus*. The specimen of *phaneus* illustrated in the Plate (figs. 6a, 6b, 6d) shows this intervarical ornamentation, but this character is variable and may not show at all in some specimens. It is more accurate to say that *phaneus* has a stronger intervarical axial and spiral sculpture, particularly on later whorls. Compare the intervarical ornamentation of *T. havanensis* (fig. 3c) and that of an old, dead-collected specimen of *T. phaneus* (fig. 5b) that lacks the "three short little narrow pinched-up riblets" described by Dall (1889:201), but which nevertheless has a significantly stronger axial and spiral sculpture.

Although *Timbellus phaneus* and *T. havanensis* have similar profiles as juveniles, adult *T. phaneus* (with about 6 teleoconch whorls) have a tendency to have more rounded, less pointed varices. Compare profiles of *T. havanensis* (figs. 1a, 3a, 4a) with those of *T. phaneus* (figs 2a, 6a). Varices in specimen 5a are damaged. It is shown here to demonstrate the consistency of surface ornamentation even in eroded specimens.

Pterynotus emilyae Espinosa, Ortea, & Fernández-Garcés, 2007, is probably a junior synonym of *Timbellus phaneus*. The newer taxon is known only from the holotype and a fragment of a second specimen. The holotype measures 5.4 mm, has a teleoconch of only 3.5 whorls, and has almost translucent varices. The protoconch of one whorl described by the authors seems to be the only difference between *emyliae* and a juvenile *T. phaneus*.

My thanks to Dr. Emily Vokes, Professor Emerita, Tulane University, for reading the manuscript and making important suggestions, and for allowing me to reproduce her images. I also thank Frank Frumar, of Kirkwood, Missouri, for inducing me to start this project and for providing specimens.

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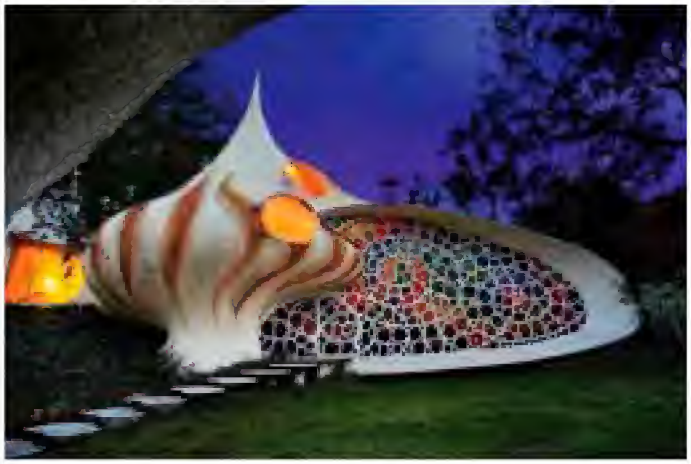
Snail House

originally presented by the Sanibel Shell Club newsletter, *The Junonia*



This unique dwelling was designed by Javier Senosian of Mexico City, and is purportedly owned by Magail and Fernando Mayorga (despite Internet sites listing the home as a Mumbai, India, dwelling.

Turritella lyonsi found off the Louisiana coast

Emilio F. García

In June, 2005, during a cruise to Bahía de Campeche in the southern Gulf of Mexico, an undescribed species of *Turritella* was dredged in 28 to 48 m of water, in mud. Although there were a number of specimens in that one haul, this was the only instance, out of more than 100 stations, in which this species was dredged. The species was eventually named *Turritella lyonsi* García, 2006.

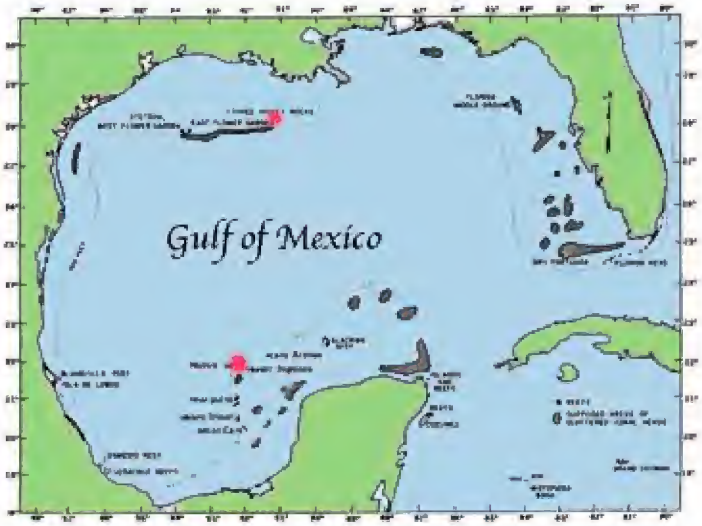
With the data at hand and dealing with a species with a paucispiral protoconch of only two whorls, I presumed that *T. lyonsi* would be restricted in its habitat; and that was the status quo until a cruise on the R/V Pelican off Louisiana this past October, when a haul done in 189 m of water on a mud bottom produced a single specimen of this species (figure 1).

And now one has to wonder... . When one consistently finds in dredging operations many juvenile *Turritella exoleta* (Linnaeus, 1758) and innumerable early whorls of *Vermicularia knorrii* (Deshayes, 1843), one's little gray cells sort of give up on shells of that size and shape. So, I am not exactly sure why I decided to pick that particular specimen and take it to the lab to look at it under my visor. And then… voilà. Well, not really. I knew what it wasn't, but not what it was, since at that moment *T. lyonsi* was far from my thoughts. Only when I got to the university lab and looked at the specimen under the microscope did the "voilà" moment occur. And yes, we do have a microscope on the ship, but it is always in use by my "non-molluscan" colleagues; besides, there are enough exciting moments on board and it is nice to bank some for later.

And after the "voilàs" came the "what ifs:" What if there were more specimens of *T. lyonsi* in that haul; what if in all these years of dredging I failed to recognize the species mixed in with other look-alikes; you know, like not seeing the tree for the forest. I'd like to think that, just as this specimen attracted my attention this time, other specimens of *T. lyonsi* would have done the same in the past. That's what I would like to think, but I wonder.

The station at which this Louisiana specimen was dredged is some 400 miles north of the type locality of *T. lyonsi* in Campeche (see map), and the two localities bridge abyssal depths. It does not seem plausible that, with a protoconch of only two whorls, *T. lyonsi* would produce veligers that could cross that distance. And the other option is that the species lives deep enough, is inconspicuous enough, and is small enough for it not to have been reported from the more accessible collecting areas in the Gulf coast.

These are the same conjectures I had regarding another, generally similar species from the northern Gulf: *Terebra mugridgeae* García, 1999 (see García, 2002:7). If one is not paying close attention one may take this small, inconspicuous, mud-dwelling species for a number of other Gulf of Mexico *Terebra*. And this species, with a multispiral protoconch of four whorls, should certainly have the capability of inhabiting appropriate muddy habitats around the Gulf. Perhaps we need to add this predilection for muddy niches to the list of reasons why both the *Terebra* and the *Turritella* have been hidden from discovery for so long.



Map of the Gulf of Mexico showing the two stations where T*urritella lyonsi* was found.

And the moral of this story is: don't take any shell for granted. The diamond is in the details. The *Turritella lyonsi* specimen was collected during operations of GoM-RI-112-8 Project #674GRI-1.

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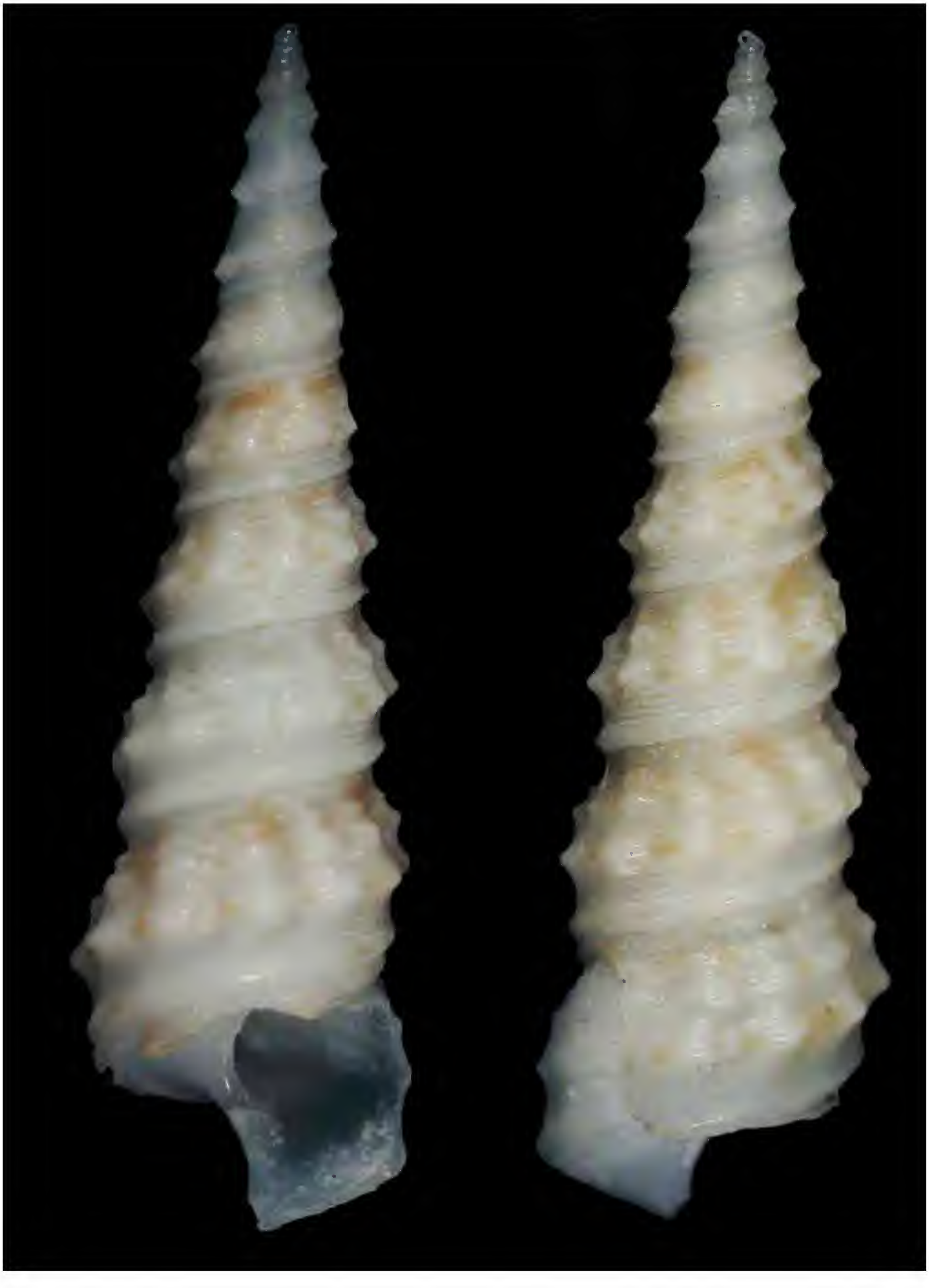


Turritella lyonsi García, 2006. Louisiana: 27°57.919'N, 91°14.501'W to 27°58.670'N, 91°16.150'W; 189 m, in mud, 13.1 mm.

The *Harpago* complex: a collector's guide

Andre Meredith (photos by the author)

Introduction

The *Harpago* complex is a group of three distinct species of marine gastropods within the family Strombidae. Genus *Harpago* is one of several genera within this fascinating family. Although fairly common, all three species are worthy of attention and exhibit strong features and bold characters. While the relative size, mass, and decorative flair of *Harpago chiragra* (Linnaeus, 1758), in particular, have given it a prominent place on many collector mantelpieces, the other two should not be forgotten.

Many would argue that the species within this genus border on bland and uninteresting, their relative abundance often being cited as reason for the aforementioned mind-set. This, however, could not be further from the truth. Although *Harpago chiragra* and *Harpago arthriticus* (Röding, 1798) are regarded as common, the true joy in collecting this genus is in finding spectacular specimens – a feat not easily accomplished. Finding specimens resplendent with intense dorsal coloration and patterning, vibrant aperture coloration and texture, perfect digitations and spires, graceful ornamentation, or uncommon sizes (both small and large) is a challenge and a reward when such is found. In addition, the relative scarcity and added gracefulness of *Harpago rugosus* (G.B. Sowerby II, 1842), makes this species a prize worthy of seeking out.

An additional challenge is collecting specimens of the more common varieties from various locations or collecting aberrant specimens exhibiting some special flair. An added boon of collecting a species regarded as fairly common is the associated relatively low cost of acquisition. It is not difficult to build up a large collection of specimens from this genus over a relatively short period of time – notably adding from various specimens from around the world to make the collection all the more interesting.

The purpose of this guide is twofold: to inspire collectors to see the true beauty and desirability of the species within the *Harpago* complex and to help more easily differentiate and identify these three species.

Nomenclature

The following diagram provides a visual layout of the nomenclature associated with the *Harpago* complex. The genus contains three distinct species: *Harpago arthriticus* (Röding, 1798), *Harpago chiragra* (Linnaeus, 1758) and *Harpago rugosus* (G.B. Sowerby II, 1842). The type species for the genus *Harpago* is *Lambis harpago* Röding, 1798, now accepted as *Harpago chiragra* (Röding, 1798).

An interesting fact about *H. rugosus* is that up until a few years ago it was thought that true *rugosus* and the male form of *H. chiragra* were one and the same. It was thought to be a "form" of *H. chiragra*, and was known as "*Harpago chiragra* f. *rugosa.*" It is now known that there are actually two distinct species: the smaller male of *H. chiragra*, as well as the species *H. rugosus*. Although both have similarities, there are distinct features separating them. *H. arthriticus* was also once thought to be only a "form" of *H. chirgara* ("*Harpago chirgara* f. *arthritica*"), but it has also been accepted as a separate species in itself.

Superfamily
Stromboidea Rafinesque, 1815

Family
Strombidae Rafinesque, 1815

Genus
Harpago Mörch, 1852

Species

Harpago arthriticus (Röding, 1798)
Harpago chiragra (Linnaeus, 1758)
Harpago rugosus (Sowerby II, 1842)

The following synonyms are associated with the *Harpago* complex:

Harpago arthriticus (Röding, 1798)
    Harpago arthritica (incorrect gender ending)
    Lambis arthritica Röding, 1798 (original combination)
    Lambis chiragra arthritica (Röding, 1798)
    Strombus divergens Perry, 1811
    Strombus nigricans Perry, 1811
Harpago chiragra (Linnaeus, 1758)
    Strombus chiragra Linnaeus, 1758 (original combination)
    Lambis chiragra (Linnaeus, 1758)
    Lambis harpago Röding, 1798
    Lambis undulata Röding, 1798
    Pterocera kochii Freyer, 1855

Harpago rugosus (G.B. Sowerby II, 1842)
Harpago rugosa (incorrect gender ending)
Pterocera rugosa G.B. Sowerby II, 1842
Lambis rugosa (G.B. Sowerby II, 1842)

Besides the many aberrant forms found, in particular associated with *H. chiragra*, the genus produces one very interesting (but exceptionally rare) recognised hybrid: *H. chiragra* X *Lambis lambis.* Other hybrids may exist, although unrecognised (*e.g.* a report of a hybrid between *H. chiragra* X *H. rugosus*).

Descriptions

Harpago arthriticus **(Röding, 1798)** - Shell (including digitations) 120 to 190 mm (5 to 7 inches) in length with 5 labial digitations and with its siphonal canal turned to the left. Large "stromboid notch" located between the 4th and 5th labial digitations. Similar to *H. chiragra,* but instead of having a deep depression at the upper end of the aperture, there is an arching broadly rounded, slightly depressed shelf projecting from the upper part of the parietal wall. The color of the inside of the outer lip is usually yellowish or pinkish yellow with splotches of purplish underlying the white spiral lirae. The columella is brownish purple with strong whitish spiral lirae which tend to parallel the 4 spiral cords on the parietal wall. On the dorsum of the body whorl, the top spiral cord bears 7 to 9 evenly-sized, rounded nodules. Periostracum thin, varnish-like, and translucent-yellowish.

M/F: There are no significant, officially-reported differences between the shells of the males and females.

Harpago chiragra **(Linnaeus, 1758)** - Shell large, 150 to 250 mm (6 to 10 inches) in length, massive, with 5 large labial digitations and with the siphonal canal turned to the left. Large "stromboid" notch located between the 4th and 5th labial digitations. Total number of whorls is 10 to 11. Spire whorls concave, bordered above and below by two raised spiral cords, between which runs the finely indented suture. Spiral sculpture of numerous, small threads and, on the body whorl, of 4 or 5 large spiral cords. The upper cord at the shoulder bears 6 to 7 large knobs of which the last two are the largest and are welded together in the female shell. The lowest fourth cord is the weakest, but it extends onto the dorsal side of the 5th labial digitation and there forms a raised ridge. Color of outer shell whitish to cream with crowded, zigzag streaks of light- or purple-brown. Color of deep interior of aperture is white. Throat of aperture somewhat constricted, flushed with rose and bearing short, white, raised, spiral lirae. Parietal wall slightly glazed, cream with brown axial streaks. Lower columella area made into a raised shield which is smoothish, cream, and tinted with rose. At the upper or posterior end of the throat of the aperture there is an elongate, concave, greatly depressed, whitish lobe attached to the inner parietal wall. Specimens from Sri Lanka (Ceylon) usually have a brown or purple-brown stain over all of the apertural area. Periostracum moderately thin, brown, axially striate, but usually worn off on the dorsal sides of the digitations and body whorl. Operculum chitinous, dark-brown, fusiform, with about 16 fine serrations on one side (commonly worn away), usually filling the constricted throat of the aperture and with a muscle attachment scar that is half the area of the entire operculum.

M/F: Females typically larger and last two knobs of shoulder larger than the others and welded together.

Harpago rugosus **(G.B. Sowerby II, 1842)** - Closely resembles *H. arthriticus.* The principal difference between *H. rugosus* and *H. chirgara* consists of the comparative smoothness and flatness of the inner lip and the strong downward curve of the posterior canal, which reaches the angle of the body whorl in *H. chiragra. H. rugosus* is thick, sub-oval, spirally striated, with four tuberculated ribs on the body whorl. Shoulder with 4 to 6 rather evenly-sized small knobs. The digitations are thick and curved, the posterior terminal digitation, although somewhat recurved, is not bent downwards over the spire, as in *H. chiragra.* The aperture is wide and very deep, with the interior strongly plicated and transversely sulcated with black interstices; the inner lip is sulcated in the same manner. The general color of the shell is light brown mottled with darker touches and blackish stripes on the terminations of the digitations. The aperture is more or less strongly tinctured with rose colour with the black striped grooves covering a larger portion of the interior in one variety than in the other. Operculum and periostracum like those in *H. arthriticus.*

M/F: There are no significant, officially-reported differences between the shells of the males and females.

Size Variations

The shells of *H. chiragra* display a wide size variation, while the size differences in shells of *H. arthriticus* and *H. rugosus* are far smaller.

Harpago arthriticus **(Röding, 1798)** - Adult sizes generally vary between 110 and 190mm. The current declared World Record Size for this species is 264mm – although this is debatable and is in all probability an incorrectly identified *H. chiragra* from Kenya, which is an area commonly associated with both species.

Harpago chiragra **(Linnaeus, 1758)** - Approximately 90% of the shells range in size between 85 and 260mm. Shells of *H. chiragra* grow to giant proportions, both in length and mass, off the west coast of Australia. Monster shells, measuring in excess of 340mm, have been found in this location. The current declared World Record Size for this species is a 343.5mm from Western Australia.

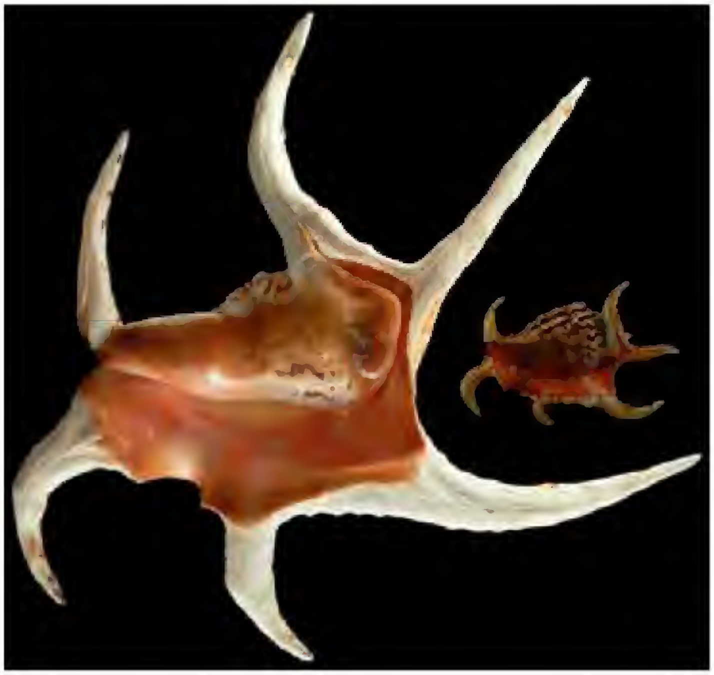
Harpago rugosus **(Sowerby II, 1842)** - Sizes generally vary between 120 and 170mm. The current declared World Record Size for this species is 186.5mm.

Habitat

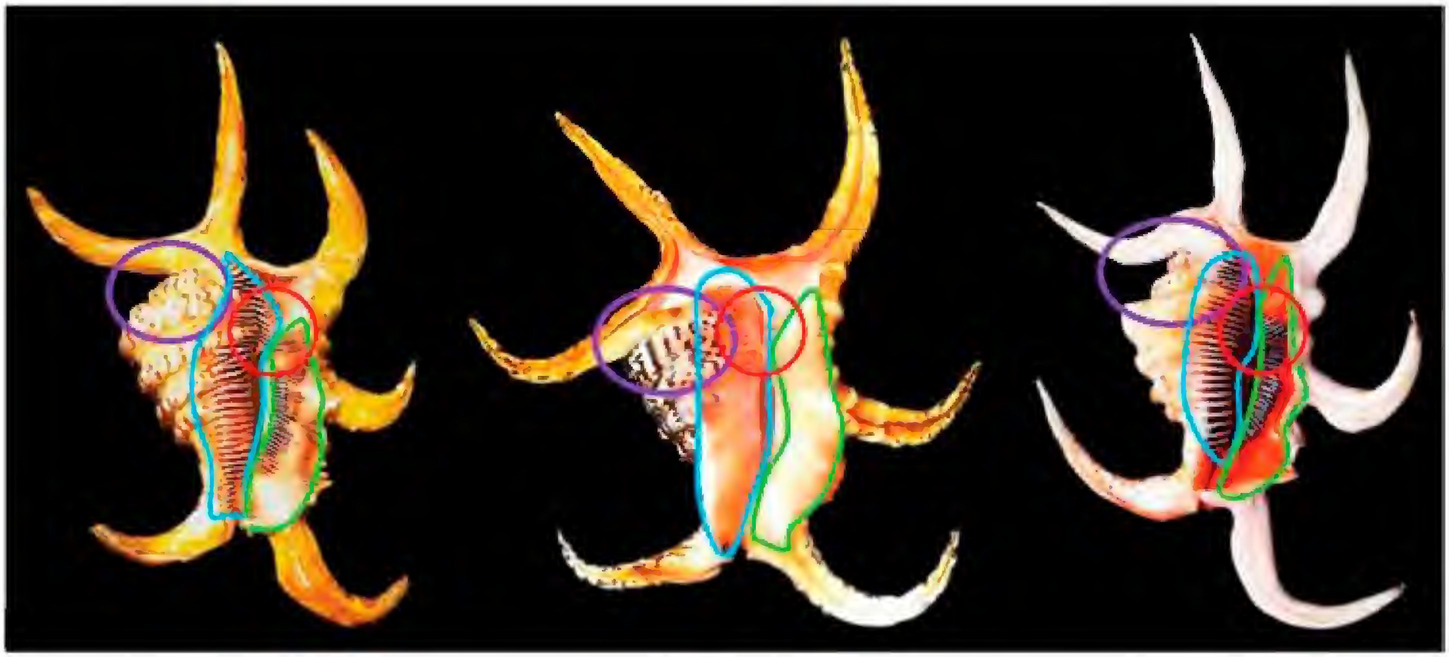
The molluscs of the *Harpago* complex are herbivores and graze on algae and marine plant life. They are generally found at relatively shallow depths (ranging between 4 and 10 feet) and many have been found just below the low tide mark.

The terrain where these molluscs feed varies widely, and has been described in various passages of literature as follows:
On seaward reef flats
In sand between rocks and coral heads
In tide pools
Among masses of coral
Algal covered reefs
On sand or rubble
Flat, offshore reefs covered with algae and marine grass
Weed-covered, stony reefs
Among coral and gravel

From the above, it is apparent that they love coral reefs, or flat patches of sand and rubble, as long as it is close by algae and marine plant life.



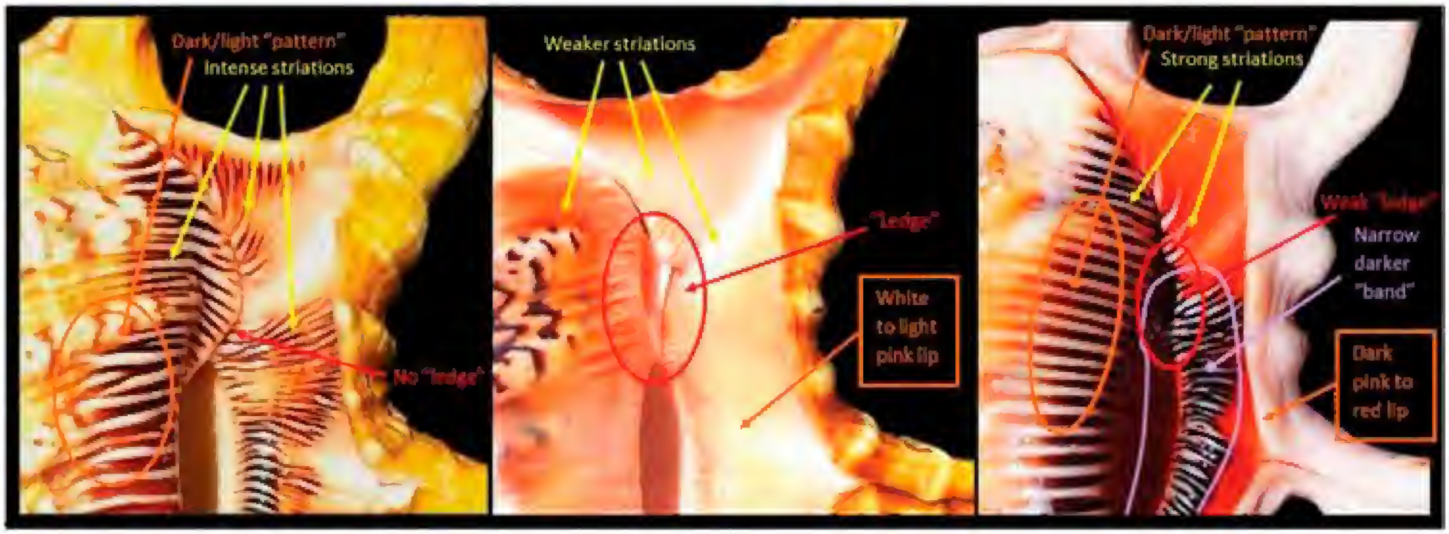
Size variation in *H. chiragra*. On the left is a 305mm giant from Exmouth Gulf, Western Australia, and on the right is a 98mm dwarf from Olango Island, Philippines.



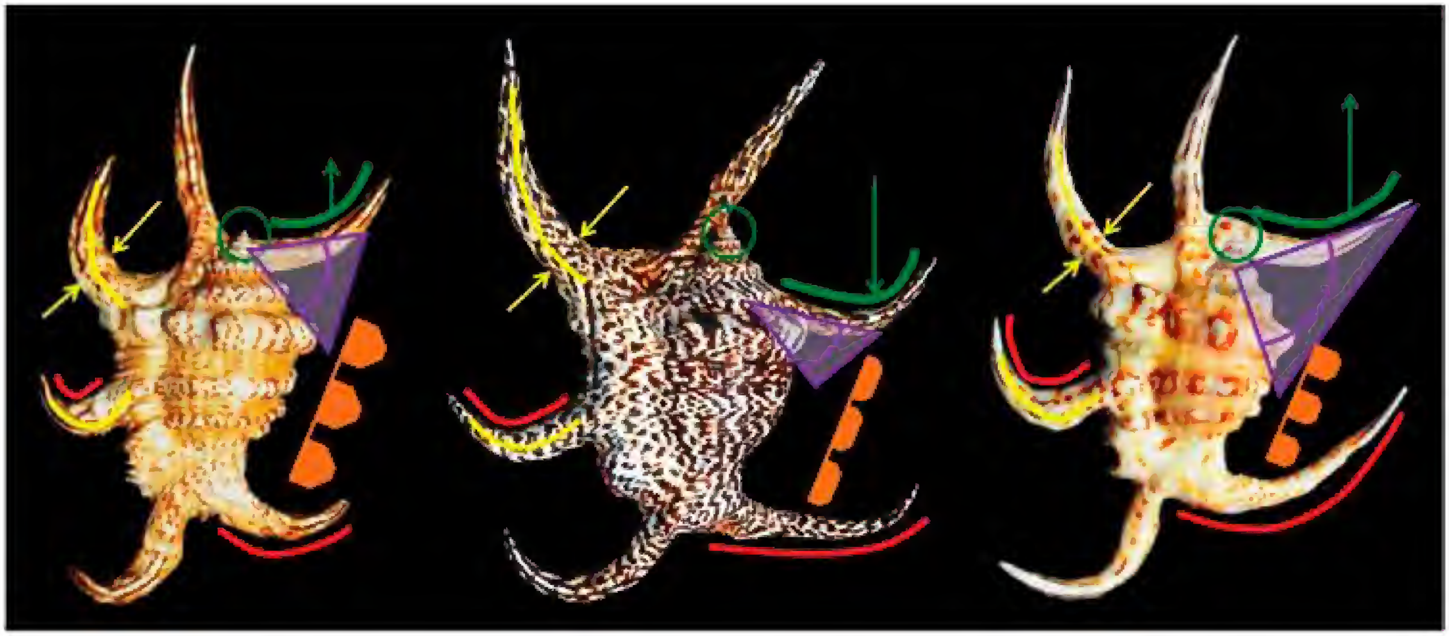
Harpago arthriticus ***Harpago chiragra*** ***Harpago rugosus***

Aperture features

First digitation/body whorl relationship
Columellar features
Lip features
Posterior aperture contour



Aperture features: posterior contour (detail)



Harpago arthriticus *Harpago chiragra* *Harpago rugosus*

Dorsum features

Relative digitation thickness/length ratio
Relative curvature of digitations
Relative roughness of dorsal features
Digitation curvature and spire location
Angle between dorsum and first digit

Locations

Harpago species are found across a wide area of our oceans. In some places, *H. arthriticus* and *H. chiragra* co-exist (northern and central Indian Ocean, Philippines), while in other areas only one species is found. *H. rugosus* seems to be isolated and located in the south-west to central Pacific. Regardless of specifics, all three species seem to be confined to the tropics and sub-tropics.

The following lists provide a rough breakdown of where the various species are most commonly found. A visual location map has been prepared showing where specific specimens have been found. The dots simply indicate approximate locations where specimens have been found.

***Harpago arthriticus* (Röding, 1798)**

- Western to Central Indian Ocean
    - Northern Kwa-Zulu Natal
    - Mozambique
    - Tanzania
    - Kenya
    - Zanzibar
    - Somalia
    - Madagascar
    - Mauritius
    - Reunion Island
    - Comoros Islands
    - Seychelles Islands
    - Maldives
- Philippines
- Northen/Eastern Indian Ocean
    - Sri Lanka
    - India
    - Indonesia
    - Malaysia
    - Thailand
    - Cambodia
    - Burma

Harpago chiragra (Linnaeus, 1758)

- Western Indian Ocean
    - Madagascar (uncommon)
- Northern/Eastern Indian Ocean & South China Sea
    - Sri Lanka
    - India
    - Indonesia
    - Malaysia
    - Thailand
    - Cambodia
    - Vietnam
    - Malaysia
    - Singapore
    - Burma
    - Western Australia
- Philippines
- Western Pacific (except regions listed for *H. rugosus*)
    - Papua New Guinea
    - Japan
    - Australian East Coast up to Great Barrier Reef
    - Philippine Sea
    - Marianas
    - Ryukyu Islands
    - Guam
- Central Pacific
    - Marshall Islands

Harpago rugosus (Sowerby II, 1842)

- Coral Sea
    - Great Barrier Reef outward
    - New Caledonia
    - Vanuatu
    - Tahiti
    - Solomon Islands
- Central Pacific
    - Line Islands
    - French Polynesia
    - Micronesia
    - Society Islands
    - Kiribati
    - Pitcairn Islands

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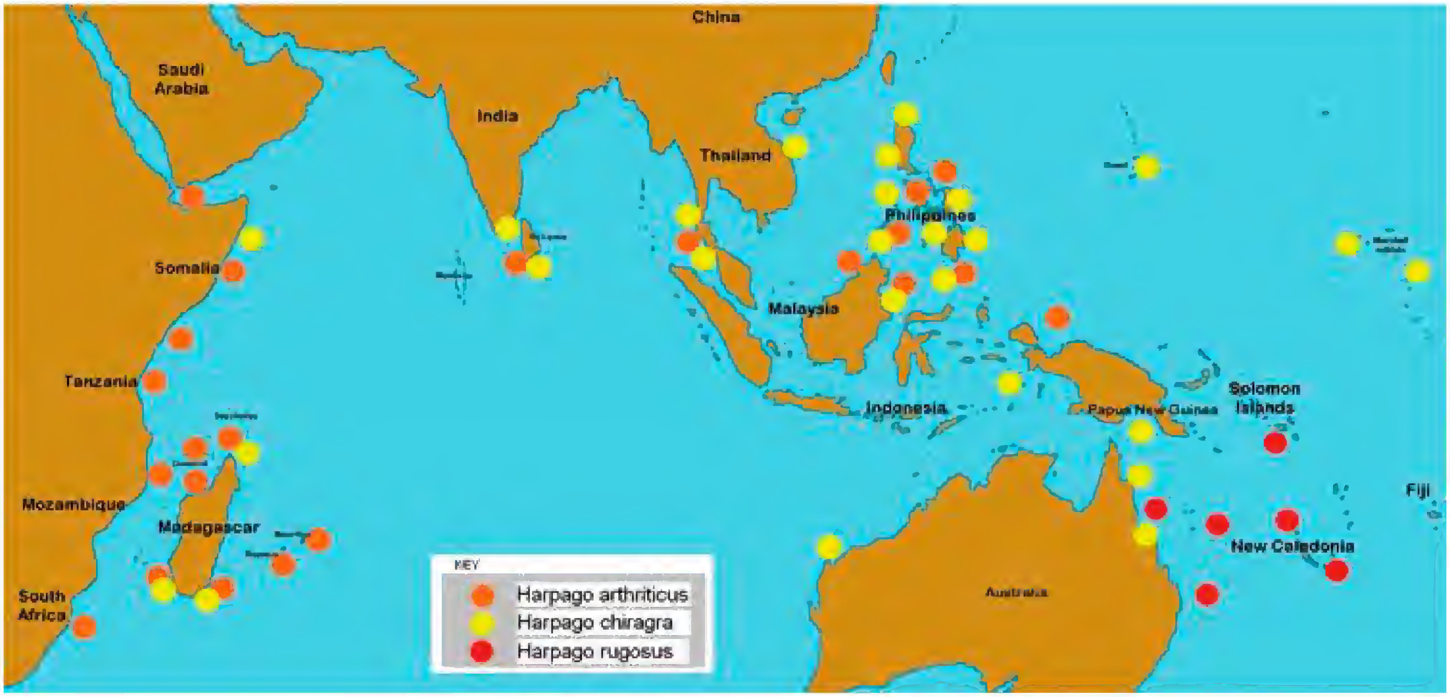
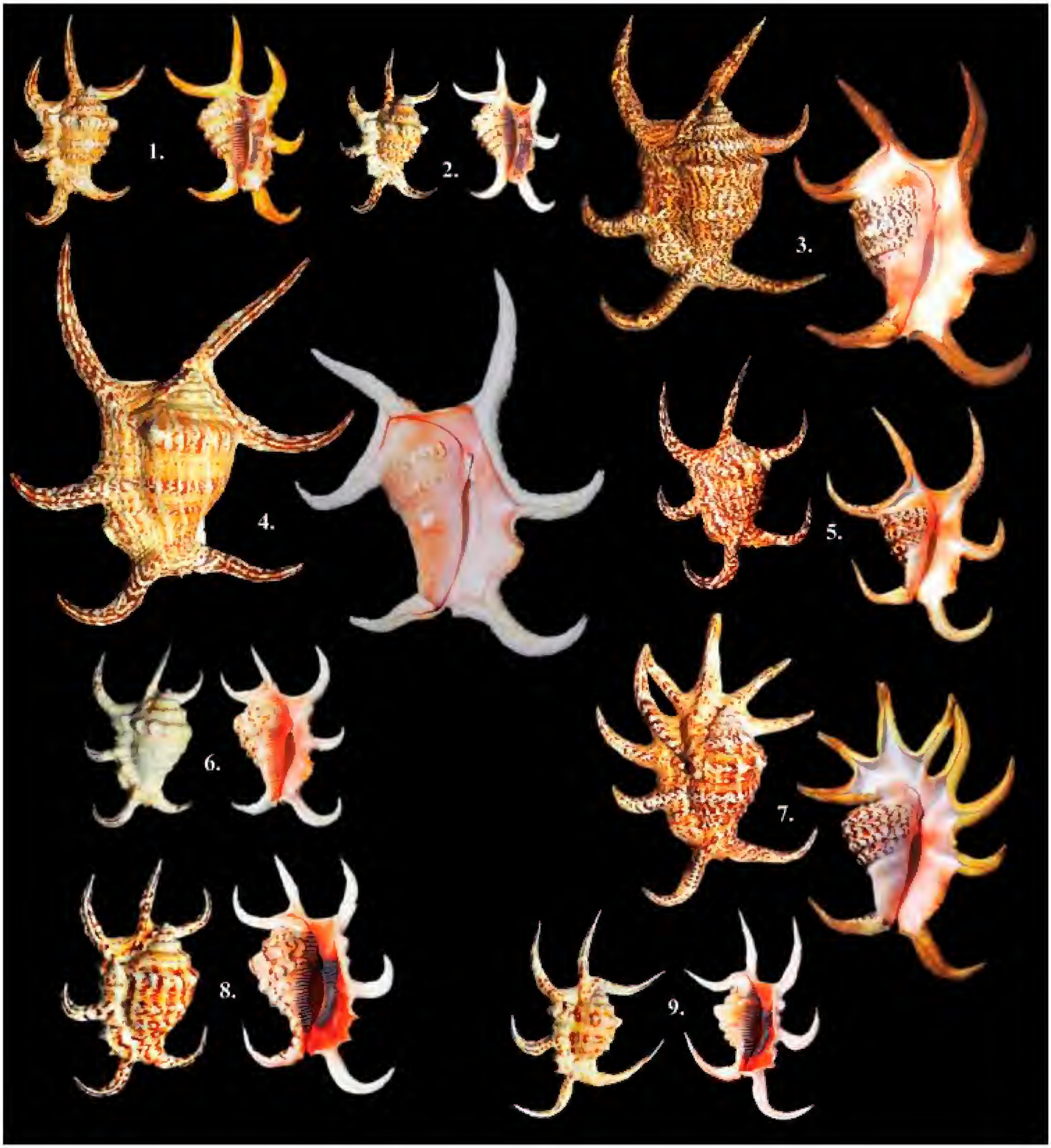




1. *H. arthriticus* (143 mm), yellow periostracum, Zanzibar Island, Tanzania. 2. *H. arthriticus* (107 mm), dwarf form typical of northwest Mauritius. 3. *H. chiragra* (256 mm), thick brown periostracum, Balabac Island, Philippines. 4. *H. chiragra* (305 mm), giant specimen from an area where it is uncommon, Diego Suarez, Madagascar. 5. *H. chiragra* (188 mm), typical form from Bantayan Island, Philippines. 6. *H. chiragra* (111 mm), dwarf with white dorsum, Palawan, Philippines. 7. *H. chiragra* (230 mm), aberrant form with nine digits. 8. *H. rugosus* (155 mm), stocky body, Coral Sea. 9. *H. rugosus* (148 mm), thin, smaller body form, Coral Sea. All images are of specimens from the author's collection.

Illustrated Catalog of the Living Cone Shells

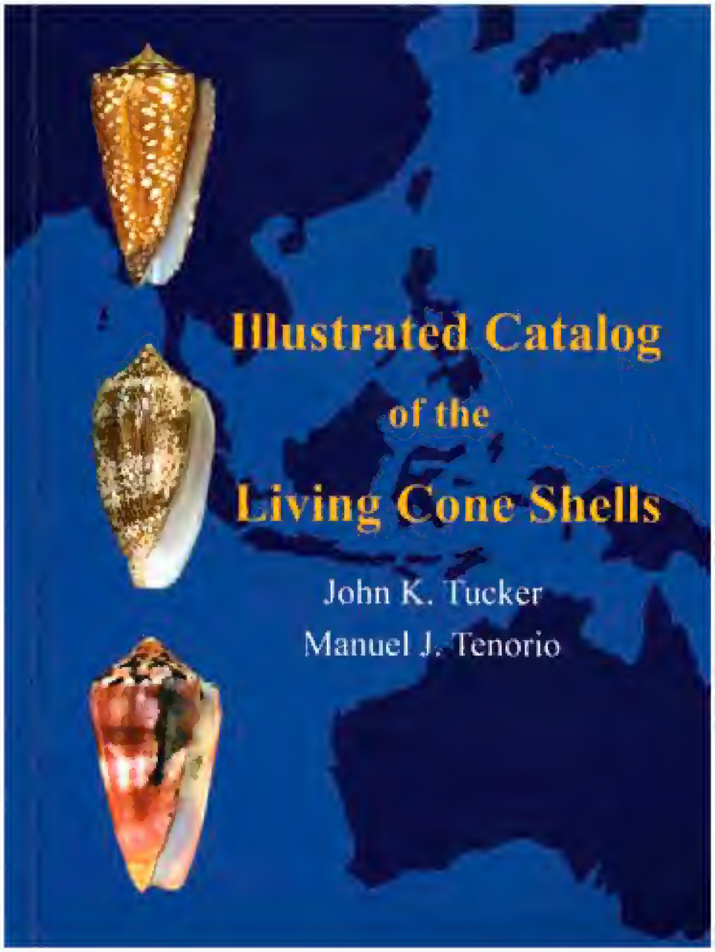
by John K. Tucker & Manuel J. Tenorio

2013, MdM Publishing, Wellington FL, ISBN 978-0-9847140-2-5 in hardcover laminated board case binding, 8½ by 11 inches (21.6 by 29.7cm), 517 pp., species illustrated in high resolution color photographs, about $180

The last worldwide cone book was "Cone Shells, A synopsis of the living Conidae" by Jerry Walls [1973]. Although this book is now dated, it remains a valuable and easy to use reference. The publication of the "Manuel of Living Conidae - vol. 1" by Röckel, Korn, and Kohn (1995), was hailed by cone experts and collectors for its breadth and depth of coverage of Indo-Pacific cones. It became an instant "classic" and well-deserves its excellent reputation. The problem is that volume II was never written. To get the full spectrum of coverage of worldwide cones a dedicated cone collector needs to add "A Conchological Iconography, vol. X (West Africa & Mediterranean)" by Monteiro, Tenorio, and Poppe (2004); "A Conchological Iconography, vol. XV (South Africa) by Tenorio & Monteiro (2008); and "The Cone Shells of Florida" by Tucker (2012); which still leaves out most of the western Atlantic. With the publication of the "Illustrated Catalog of the Living Cone Shells," we now have a single volume, up-to-date reference for worldwide Conidae.

In this newest tome, Tucker and Tenorio list 743 valid names of extant Conidae, 1210 synonyms, 3 families, 4 subfamilies, and ...wait for it...119 genera (of which 5 are extinct, leaving 114 Recent cone genera). The authors are aware of the negative reaction of many shell collectors to this new taxonomy (an updated version of the taxonomy they first presented in 2009), but most cone collectors knew the genus *Conus* was a 250-year-old dumping ground for almost all mollusks with cone-shaped shells. The authors incorporated radular characteristics (illustrated for each genus) and, when available, DNA sequencing to provide what they believe is the most thorough and up-to-date classification of this important molluscan family.

Enough about all of the new genera. Do not let this dissuade you from purchasing this important book. When Walls published his cone book [1973], he stated there were "about 300 species." Twenty-some years later when the Röckel, Korn, and Kohn (1995) book was published, there were about 400 recognized species of cones worldwide. There are now, according to the authors, 743 valid cone species. Each of these is presented here in full color, high resolution photographs with both the dorsal and ventral view shown for each shell. The book contains over 1,960 species names listed in alphabetical order. If the species name is considered valid, it is listed in **bold-face type** and accompanied by a clear and detailed image. If the name is considered a synonym, or a *nomen dubium*, or unavailable, or anything other than valid, it is shown in regular-face type. A geographical subspecies is also listed in regular-face type. This determination of valid or not is termed by the authors as "likely to be." In other words, to the best of their information at this time. After the species name, the author and date of description are listed, as well as the publication in which the description appeared. They also list the type locality (as originally described), synonyms, known geographical range, and the present assigned genus.



Not everyone will agree with the taxonomy laid out by Tucker and Tenorio, but this timely and much-needed work provides a solid basis for future taxonomic work on Conidae. For the collector, it provides a single source for the names becoming more commonly used in Conidae and a modern resource for worldwide cone shells. The entries are concise and easy to use (once the explanation is read on pages 7 & 8), the data provided are valuable, and the images are well-executed and large enough to really be of use. I like this book and, if you collect cones, you will find it a worthy addition to your shell library.

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SCUM XVII: Southern California Unified Malacologists

Lindsey T. Groves

The 17th annual gathering of **S**outhern **C**alifornia **U**nified **M**alacologists (SCUM) was held in the Times Mirror Room of the Natural History Museum of Los Angeles County (NHMLAC) and attended by thirty-six professional, amateur, and student malacologists and paleontologists on Saturday, January 19th, 2013. This informal group continues to meet on an annual basis to facilitate contact and keep attendees informed of research activities and opportunities. In keeping these gatherings informal, there are no dues, officers, or publications. It is hoped that the continuing success of informal groups such as SCUM, Bay Area Malacologists (BAM), Mid-Atlantic Malacologists (MAM), Ohio Valley Unified Malacologists (OVUM), and Florida Unified Malacologists (FUM) will encourage more regional groups of malacologists and paleontologists to meet in a likewise manner.

SCUM XVII co-hosts Lindsey Groves and Mary Stecheson greeted pre-meeting attendees with a variety of pastries, fresh fruit, coffee, tea, and juices. At 9:00 AM Lindsey Groves welcomed the group and made several announcements. He encouraged members to tour several museum galleries opened since the last SCUM gathering at NHMLAC (2008) during the lunch break. Free vintage t-shirts, mugs, and abstract volumes from past Western Society of Malacologists meetings were made available.

In continuing SCUM tradition, all present were given the opportunity to introduce themselves and give a short update about current mollusk related activities. Most presentations were informal but fifteen attendees gave more detailed talks. It was particularly refreshing to have nine students in attendance this year and five of them from Cal Poly Pomona gave presentations on their research. Of particular interest was a presentation by biological consultant Emile Fiesler (BioVeda) who summarized the invertebrate fauna present in Madrona Marsh Preserve in Torrance, CA, a nearly 44 acre preserve surrounded by urban buildup. For SCUM he emphasized eight species of gastropods including two aquatic species *Physella virgata* and *Planorbella tenuis*, two non-native slugs *Lehmannia valentiana* and *Deroceras invadens*, two native snails *Catinella rehderi* and *Nearctula rowelli,* and two non-native snails *Rumina decollata* and *Vallona excentrica*. A noticeable absence of the ubiquitous *Cornu aspersa* in the preserve, but common across the boundary streets, begs the question … why didn't *Cornu aspersa* cross the road? A timely report by Leslie Harris (NHMLAC Polychaetes Collection Manager) on several docks that were torn loose by the tsunamis that followed the M_w 9.0 Tohoku earthquake that ravaged northern Japan on 13 March 2011 and washed ashore in Oregon and Washington, focused on the hitch-hiking invertebrates. Particularly interesting was the commensal hydrozoan *Eutima* sp. found inside living *Mytilus* sp. Phil Liff-Grieff (Pacific Conchological Club) reported on fossil micromollusks from raised reefs of the Waimanalo Formation near Kahe Beach Park on the Waianae Coast of ‘Oahu, Hawai‘i. He referred to the list of fossil mollusks published by L.T. Groves (2008) in Mike Sevem's book on the seashells of Hawai‘i and that it is already in need of revision … particularly the family Triphoridae. Phil also talked about a micro digital scanner that he uses for photography of micro specimens called the *Dino-lite* Digital Microscope. It has a few problems with depth-of-field but for identification purposes it is a handy tool for the micro mollusk enthusiast. Jennifer Alexander, Jennifer Burdan, Samantha Cooke, Jessica Goodheart, and Jermaine Mahguib (all students at CPP under the guidance of Ángel Valdés) presented progress reports of their research. Current Western Society of Malacologists President Wendy Enright reported on *Philine* collected at the city of San Diego sewer outfalls and encouraged SCUM participants to attend the upcoming WSM meeting in San Diego. As always Doug Eernisse (CSUF) reported on the myriad of projects he has in progress singly and with co-authors both professional and students. SCUM XVIII will be hosted by George L. Kennedy at the City of San Diego Biological Laboratories in January of 2014.

SCUM XVII participants and their respective interests and activities:

Candice Aguirre (Cal. St. Univ., Fullerton): Graduate student researching *Fissurella* in southern California.

Jennifer Alexander (Cal. Poly. Pomona): Presented update on her graduate research on *Aplysia dactylomela* in the Mediterranean and Hawai‘i.

Jennifer Berdan (Cal. Poly. Pomona): Presented *Aliens, parasites and biotic resistance: Studying the potential spread of* H. japonica *in southern California*. In particular, why this invasive species has not reached southern California.

Hans Bertsch (San Diego Shell Club): Presented *Four Journeys: Una Cabalgata en Búsqueda de nudibranquios* where he discussed: 1) two unnamed species of *Marionia* known in the eastern Pacific, 2) problems within the species *Tritonia* (?) *papalotla*, 3) provincial and community comparisons of nudibranch feeding biogeography, and 4) additional unnamed species of *Rostanga*, *Facelina*, and *Cuthona* from the eastern Pacific.

Rosa Campay (Imperial Beach, CA): Attended SCUM with husband Hans Bertsch. Copies of *Sea of Cortez marine invertebrates*, 2nd edition (revised) by the late Alex Kerstitch and Hans Bertsch were available for sale.

Sarah Cary: Current interest in invertebrates and searching for a graduate program to enter and conduct research.

NATURAL HISTORY MUSEUM LOS ANGELES COUNTY

Top row: (l to r): Scott Rugh, Phil Liff-Grieff, Emile Fiesler, James Verhoff, Chuck Powell, Doug Eernisse, Jermaine Mahguib, Hans Bertsch, George Kennedy.

3rd row: (l to r) Pat LaFollette, Bryan White, Paul Tuskes, Leslie Harris, Bob Moore, Mary Stecheson, Jim McLean, Jessica Goodheart, Ángel Valdés, Jennifer Alexander.

2nd row: (l to r) Lawrence Moser, Bob Stanton, Kari Eckdahl, Zofia Ksiazkiewicz, Wendy Enright, Jennifer Berdan, Samantha Cooke.

Front row: (l to r) Kathy Kalohi, Candice Aguirre, Rosa Campay, Sarah Cary, Allison Sholly.

Seated/Kneeling (l to r): Lindsey Groves, Shawn Wiedrick. Present but not in photo: Daniel Geiger and Ian Christianscher.

Ian Christianscher: Attended with Sarah Cary, no report.

Samantha Cooke (Cal. Poly. Pomona): Presented *The movement of* Haminoea japonica *based on oceanic temperatures*, and how and where this invasive species reached Washington, California, and Europe.

Kari Eckdahl (Cal. St. Univ., Fullerton): Graduate student with Doug Eernisse researching limpets of southern California.

Doug Eernisse (Cal. St. Univ., Fullerton): Teaching duties and research projects with professional and grad student colleagues: calcite eyes in chitons, Paleozoic chitons, possible invasive species from Japanese docks in Oregon and Washington, and sequencing samples for new species of *Cahuillus* (Helminthoglyptidae) with Lance Gilbertson.

Wendy Enright (San Diego): Western Society of Malacologists President, conducts offshore marine faunal surveys for San Diego Marine Biology Labs. Presented Philine *in the city: The rise and fall of* Philine auriformis *in San Diego* and how its introduction affected local faunas.

Emile Fiesler (Bio Veyda): Conducts biological surveys with an emphasis on Mollusks and Arthropods. Presented *Gastropods of Madrona Marsh Preserve, Torrance, CA.*

Daniel Geiger (Santa Barbara Mus. Nat. Hist.): Full-time curator, Invertebrate Zoology, SBNHM. Completed a major publication, *Monograph of the little slit shells* (superfamily Scissurelloidea), covering living and fossil species. Daniel had copies for purchase along with his revised monograph on abalone (with Buzz Owen), and the recent books by E.V. Coan & P. Valentich-Scott on Panamic bivalves.

Lance Gilbertson (Newport Beach, CA): Research Associate at Nat. His. Mus., L.A. Co., researches terrestrial mollusks of the Southwest. Published a paper with Doug Eernisse (CSUF) on a new species of *Cahuillus* (Helminthoglyptidae) from the Mojave Desert, using molecular techniques.

Jessica Goodhart (Cal Poly Pomona): Reported on participation in *Expedition Papua New-Guinea 2012-2013*, with the Paris Museum, particularly within the Madang Lagoon, rich in species but not exceptional given its location in the "Coral Triangle." Numerous species normally common in the West Pacific are inexplicably absent. She continues her research on the genus *Pleurobranchus* (Pleurobranchidae).

Lindsey Groves (Nat. Hist. Mus. L.A. Co.): Collection manager at NHMLAC, recently published describing a new species of Cretaceous *Bernaya* (Cypraeidae) from the Santa Ana Mountains, Orange Co., CA, with Harry Filkorn (Pierce College) and John Alderson (LACMIP). He also identified fossil mollusks for two papers with Daniel Muhs (USGS Denver) on terrace chronology on San Nicolas Id., CA, and possible terraces on Santa Catalina Id., CA. He documented the presence of the introduced species *Polygyra cereolus* into southern California from Florida with Phil Liff-Grieff.

Leslie Harris (Nat. Hist. Mus. L.A. Co., Polychaetes): Presented *Hitchhiking aliens: Unexpected consequences of the Japanese tsunami* and in particular the hydrozoan *Eutima* sp. living within the valves of *Mytilus* spp.

Kathy Kalohi (Pac. Conch. Club): Current Pacific Conchological Club Treasurer, shell and fossil collector, and diver.

Zofia Ksiazkiewicz (Polish Academy of Science): Current PhD candidate and researches micro land snails of wetlands of western Poland.

George Kennedy (Brain F. Smith & Associates): Conducts paleo-monitoring in San Diego County and researches marine terraces, including some on the Camp Pendleton Marine Base in northern San Diego County.

Pat LaFollette (Nat. Hist. Mus. L.A. Co.): Continues with rearrangement of the Pyramidellidae in the NHMLAC malacology collection. Beginning to research bivalve ectoparasitic pyramidellids; some seem to be host specific. Works with Pleistocene micros from Lake Cahuilla sediments and Miocene/Pliocene Imperial and Brawley formations in the Whitewater Canyon area of Riverside County.

Phil Liff-Grieff (Pac. Conch. Club): Landsnail collector with interest in island biogeography. Recently renewed an interest in microgastropods from the Pleistocene Waimanalo Formation of ʻOahu, Hawaiʻi.

Jim McLean (Nat. Hist. Mus. L.A. Co.): Jim continues on his eagerly anticipated volumes on North Pacific shelled gastropods. His monograph of worldwide Liotiidae is nearly complete. Published on new species and genera of a new subfamily (Liotipomatinae) within the family Colloniidae.

Jermaine Mahguib (Cal. Poly. Pomona): Presented *The funny dorids: A proposed investigation of a possible new species investigation using additional gene sequences to determine undescribed species*. Funny dorids are a subgroup of the genus *Doris* known as *Doriopsis*.

Bob Moore (Nat. Hist. Mus. L.A. Co., Malacology): Volunteer in Malacology section and avid shell collector curating material collected by Curator Emeritus James McLean in South Africa.

Lawrence Moser (Pac. Conch. Club): General shell collector and Vice-President of the Pacific Conchological Club.

Chuck Powell, II (U.S. Geological Survey): Currently working on deepwater faunas from Pliocene deposits off San Clemente Is., CA, and middle Miocene limestone strata in Orange County, CA.

Scott Rugh (Escondido, CA): Currently identifying fossils from the Susan Kidwell (Univ. Chicago) collection donated to the Anza Borrego Desert Museum in Borrego Springs, CA

Allison Sholly (Cal Poly Pomona): New grad student at Cal Poly Pomona.

Robert Stanton (Nat. Hist. Mus. L.A. Co., Invert. Paleontology): Studying Miocene mollusks from limestone strata within the Conejo Volcanics of the Santa Monica Mountains with John Alderson (also NHMLAC, IP) and Pennsylvanian sponges of the genus *Chaetetes* from Texas.

Mary Stecheson (Nat. Hist. Mus. L.A. Co., Invertebrate Paleontology): Current Collection of Invertebrate Paleontology at NHMLAC and preparing for major move of the IP collection to another off-site facility in Carson, CA.

Paul Tuskes (San Diego Shell Club): Recently completed molluscan survey of Misson Bay, San Diego, by habitat, which will be published in *The Festivus* (SD Shell Club) that included 187 species. Presented *Opisthobranchs of Mission Bay* and in particular the bubble shell *Bulla gouldiana* and its natural history, reproduction, growth, and predation.

Ángel Valdés (Cal Poly Pomona): Teaches Evolutionary Biology and continues phylogenetic research on Caribbean and Panamic opisthobranch gastropods.

James Verhoff (CH2M Hill): Conducts salvage paleontological locally and first time SCUM attendee.

Bryan White (Cal. St. Univ., Fullerton): Graduate student of Doug Eernisse.

Shawn Wiedrick (Pac. Conch. Club): President of the PCC and interested in all areas of shell collecting. Volunteers at Nat. Hist. Mus. of L.A. Co. identifying Indo-Pacific micro-turrids. Discussed recent collecting trip to Costa Rica and will report on findings at future SCUM gathering, his construction of shell cabinets that dominate his apartment, and figuring micro species omitted by Keen (1971).

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Mind your mangroves! A shelling trip to Puerto Rico

Karen VanderVen

Mangrove islets are the preferred habitat of some interesting mollusks, but require some specialized skills when collecting shells. Photo by Randy Allamand.

Oh, the things shellers will do to add new and elusive specimens to their collections! They may hike miles on beaches, sift through bushels of sand, crawl while under water around walls, wrecks, and reefs, prowl and paw in odorous dumps, and turn over and back hundreds of rocks.

A recent small expedition to La Parguera on the southwestern Puerto Rico coast, introduced this group to still another approach to obtaining shells: swimming deep into the dark recesses of mangroves: rooted and dense clusters of small trees that live in swampy, muddy tropical waters. To some people this may sound like as much fun as a day at the alligator petting zoo. To these shellers, however, this was another marvelous adventure and opportunity to search for coveted mollusk species.

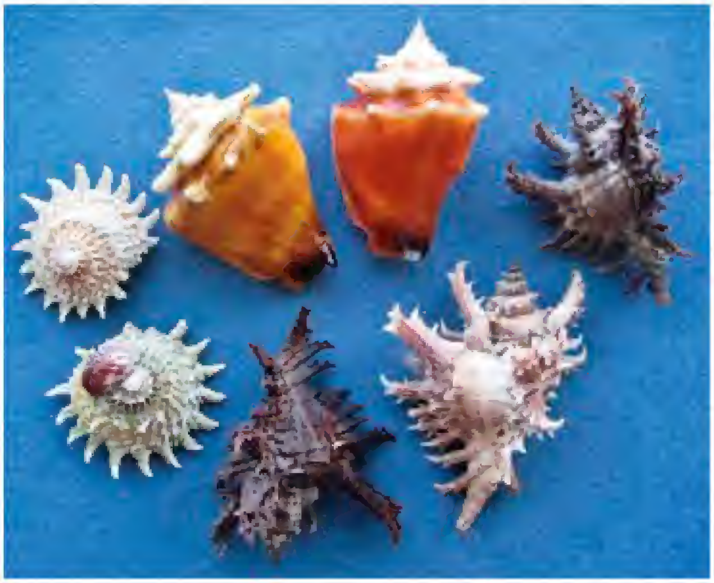
Organized and led by Randy Allamand, the trip's shellers were: Rex Stilwill, Marc Nathanson, and Karen VanderVen. Randy, knowledgeable from previous trips, filled us in before the trip about the special shells that we might find. Top of the list was, of course, the mangrove-dwelling Caribbean murex, *Chicoreus brevifrons* (Lamarck, 1822). Highly spinose, in varying shades on the cream - tan - brown - black spectrum, these would be prizes. Would we find any? It would not be easy.

Also on the "hope we'd find" list of special shells of the area were rooster tail conchs, *Lobatus gallus* (Linnaeus, 1758); large star shells, *Lithopoma phoebia* (Röding, 1798); West Indian fighting conchs, *Strombus pugilis* (Linnaeus, 1758) that were particularly colorful; Atlantic thorny oyster, *Spondylus americanus* (Hermann, 1781); and the always desirable sunrise tellins, *Tellina radiata* (Linnaeus, 1758).

Soon we were settled into a charming and comfortable house built over the water, which was one of a whole line of colorful dwellings along the coastline. A spacious front porch allowed for drying shells and dive equipment, and served as a dock where a boat could pull right up. So next day, Carmen Painter, well known as a Puerto Rican shell guide, glided her boat right to our porch to take us out to a variety of shelling spots with which, due to her years of living in and shelling and diving in the area, she was extensively familiar. Carmen also owns a shell shop in town and we were to enjoy several interesting productive visits there.

To the Mangroves Borne

"The day" we had been waiting for came: when we'd head into the mangrove islands that dotted the offshore territory for the elusive murexes. We came to an incredible spot inside a large lagoon fringed by mangrove patches – no



Some of the species we expected to find on this trip: (clockwise from upper right) three specimens of *Chicoreus brevifrons* (Caribbean murex), two specimens of *Lithopoma phoebia* (star shell), and two specimens of *Strombus pugilis* (West Indian fighting conch). Photo by Randy Allamand.

signs of civilization in sight. We decided that one half the group would snorkel the shore on one side and the other half, the other side.

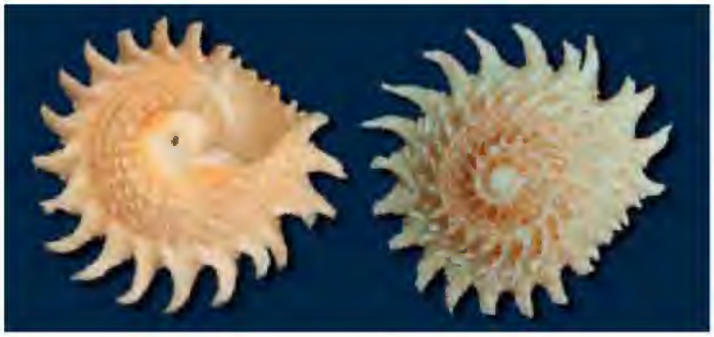
Carmen gave us careful instructions and a demonstration. We were warned that any touching of the bottom would stir up silt that would render the surrounding area invisible for a while, so we wanted to be spaced apart. Luckily there was plenty of territory - miles of it, for everybody. We would swim into the mangroves and look for oyster clumps that had fallen into the mushy soft silt below us. We would then pick them up, and like turning the pages of a book, examine them inside where hopefully a murex would be nestled. We could also pat the bottom to feel for telltale spines or even carefully dig in the silt a bit. Then the process would be repeated, over and over. It was best not to wear gloves, since it would be harder to feel the hidden spines.

Carmen helped us get started by going into the tangle and coming out with several small specimens right off the bat. She handed me the larger size shell to get me started and I was on my own. In and out, in and out, I swam. Nothing. Voices echoed across the lagoon trumpeting that they had begun finding the shells. I decided to be patient and to polish my technique. This was to go even deeper into the mangrove cluster, where it would actually be dark, and once there approach the clumps in a way that the area would not be clouded up until several clumps could be examined, with each layer pulled away to see what might be hiding in it. Since there was no sunlight, it was prudent to take a promising clump in hand, then back out through the tangles

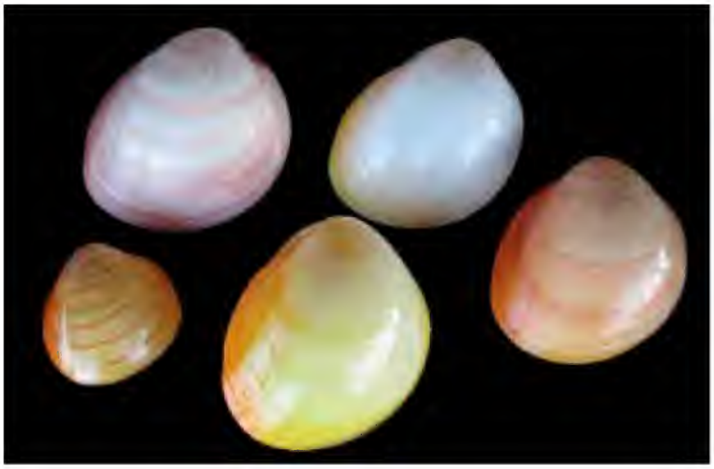
We approach what appears to be an impenetrable wall of mangroves. Photo by author.

The closer we get the thicker and more impenetrable the mangroves appear. Photo by author.

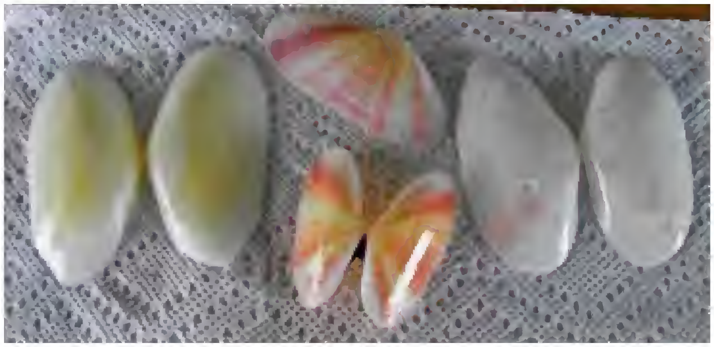
Here it is, now to dive in, push through the roots, and find those shells. Photo by author.



Lithopoma phoebia (star shell). Photo by Marc Nathanson.

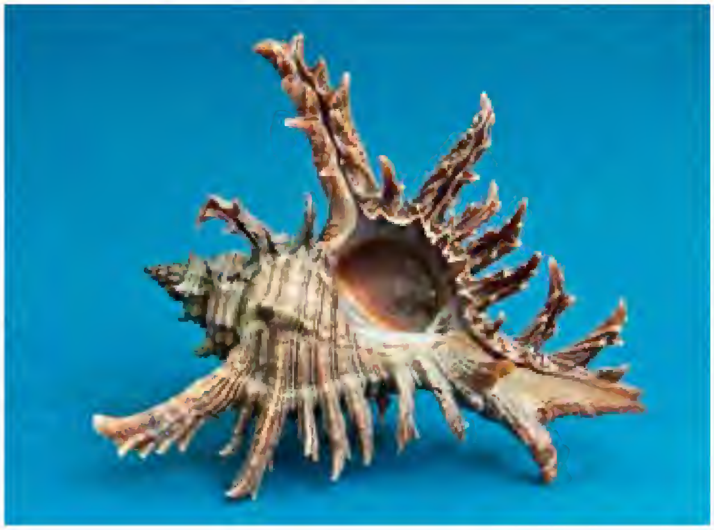


The colorful *Trachycardium magnum* (magnum cockle). Photo by Marc Nathanson.

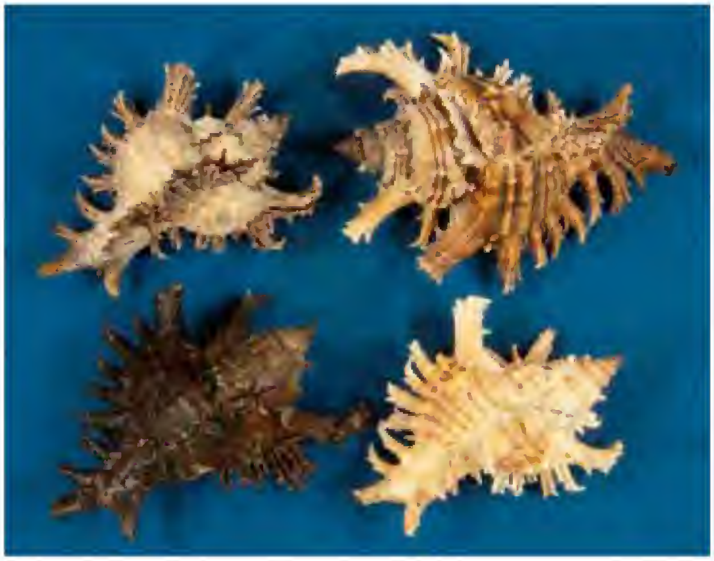


Tellina radiata (sunrise tellin). Photo by author.

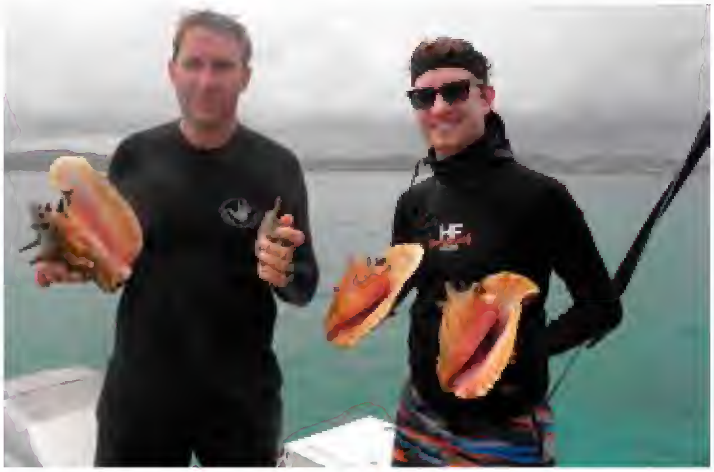
El Yunque rain forest. Landsnails anyone? Photo by Marc Nathanson.



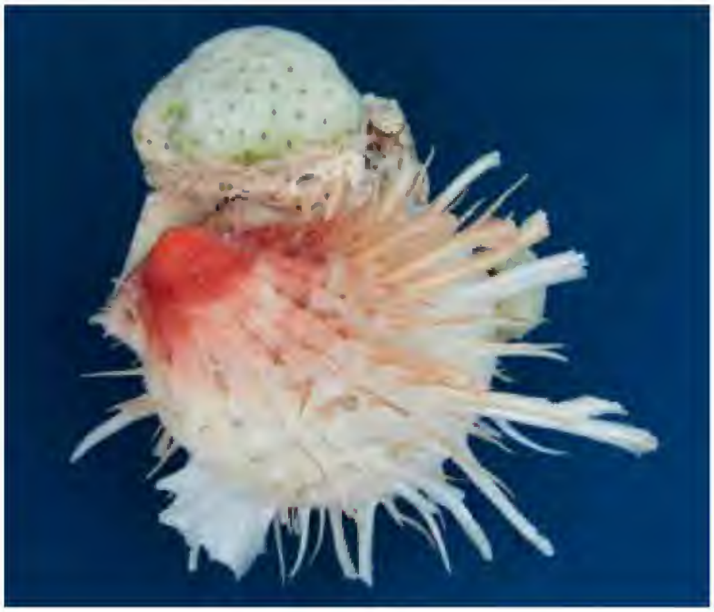
Chicoreus brevifrons (Caribbean murex). Photo by Marc Nathanson.



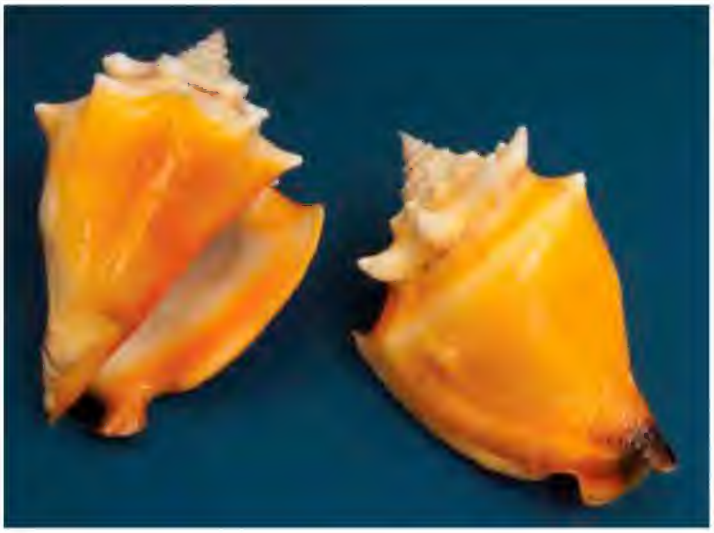
Color variation of *Chicoreus brevifrons* (Caribbean murex). Photo by Marc Nathanson.



Randy Allamand (left) and Rex Stilwill (right) with some brightly colored strombs: *Lobatus gigas* (queen conch) and *Lobatus gallus* (rooster tail conch). Photo by author.



The always elegant *Spondylus americanus*, welcome in any sheller's collection. Photo by Marc Nathanson.



Two *Strombus pugilis* (West Indian fighting conch) with a rich golden coloration. Photo by Marc Nathanson.

into the light where it could be examined more carefully.

At one point while out in the lagoon I looked all around and could see neither the boat nor the other shellers, at the moment deep in the mangroves. It was an incredible feeling. Who would have ever imagined being alone in the middle of a large mangrove island-studded tropical lagoon ?

You know the feeling of sheer elation when you've looked futilely for what seems hours on end and find nothing, and then suddenly a sought after shell suddenly pops into view. I finally began to find the murexes. With persistence I found as many of them as I felt I could manage. Everybody returned to the boat full of excitement at their finds and spread them out for all to see. I looked at my hands, streaked with mud and with little cuts from the oysters and lamented with a smile that I guess I wouldn't be getting that hand-model job.

Reach for the Stars

The next day Carmen ferried us to a spot where beautiful round star shells had been found. Once again we rolled over the side, this time in about 4-6 feet of water, looking down at sand patches and an occasional group of rocks and coral mounds. After a while I suddenly saw a star shape outlined against a rock and jackknifed on down for it. I was thrilled, and even more so when I spotted another. These were not those tiny little specimens we've found in the Bahamas, stuck to pieces of grass. My largest is almost 2" across and has cleaned up to be a beautiful gold and cream. We all found a star or two (Marc had also found one on our first scuba dive) and in addition Rex brought in a perfect, brightly striped *Tellina radiata.*.

We proceeded to another spot where previously these tellins had been found. Here and there tempting single valves glittered in the sand. I picked them all up in the eternal hope there'd be some matches, and will wonders never cease – I actually came up with two complete pairs. Randy slipped me a pretty yellow pair he'd found.

Apples and Oranges

Before the trip came to an end, we visited any number of other offshore spots. In one, apple murex, *Phyllonotus pomum* (Gmelin, 1791*)* were abundant. Pretty as they are, most shellers don't get excited about them and neither did we. The same was true of some attractively patterned bubble shells, *Bulla striata* (Bruguièere, 1792), found on a night dive.

The *Strombus pugilis* were different. They were highly desired for their bright orange dorsa, their shiny apertures, and spinose spires. We made two stops for them, based on Carmen's sense of where they had been the last time she had taken a group out. "I can't promise they'll be here," she said, but once again she was right on target. They were abundantly nestled in and amongst some unpromising, seemingly lifeless, sand humps. They were covered with sand but made a pucker so that we could spot them. In fact they were so abundant that we were able to pick and choose. One of Randy's specimens had somewhat flattened spines like paddles, suggesting the "sloani" variant of this species.

Queens for a Day

Shell collectors still prize the famous queen conch (*Lobatus gigas,* Linnaeus, 1758). Collecting them in Puerto Rico is permissible. We all gasped in admiration when we saw the large perfect specimens with bright pink and orange apertures and widely flaring lips brought up by Rex and

Randy, those found by Rex tucked into a patch of gorgonia. Rex increased the number of species of *Strombus* found by "lucking into" a colony of milk conch, *Lobatus costatus* (Gmelin, 1791).

There were other interesting finds. All shellers prize the angular triton, *Cymatium femorale* (Linnaeus, 1758). Rex, Carmen, and Randy all retrieved sizable live specimens on their travels around the flats. Marc picked up a huge, but encrusted triton, *Charonia variegata* (Lamarck, 1816), on one of our scuba dives, which ended up left behind. This find reminded me of shelling an off-shore reef on Union Island in the lower Caribbean. I spotted a large indentation housing a large triton. The shell practically leaped out at me. While it was alive, full of encrustations and pits, it had seen better days. Back it went. It hit me that the poor triton had probably been found, found wanting as a specimen for a collection, and immediately replaced by shellers on previous trips.

To add variety to the *Chicoreus brevifrons* finds, we were able to add "reef" specimens found in the oceanic shallows. These were simply lying on the bottom and are white with slender dark bands around the dorsa, rather than the tan, brown and black of the mangrove shells.

Good Things Come in Pairs

While snorkeling yielded more prized specimens than diving, we all found *Spondylus americanus* (Hermann, 1781) on our scuba dives. Marc's was particularly colorful and spinose. Randy brought up a *Spondylus ictericus* (Reeve, 1856). My best find diving was a fine scallop, *Caribachlamys imbricata* (Gmelin, 1791). Rex retrieved two pair of *Pecten ornata* Lamarck, 1819, from under a rock slab. Other bivalves taken included beautiful cockle species: *Trachycardium magnum* (Linnaeus, 1758) in a variety of colors; bright yellow *Trachycardium muricatum* (Linnaeus, 1758), *Papyridea soleniformis* (Bruguièere, 1789), and colorful egg cockles (*Laevicardium serratum* (Linneaus, 1758)). In addition were *Semele proficua* (Conrad, 1841), *Glycymeris decussata* (Linnaeus, 1758), the king Venus (*Lirophora paphia* (Linnaeus, 1767)), and a beautiful lady-in-waiting Venus (*Chionopsis intapurpurea* (Conrad 1849)).

Besides the shells that were the focal point of the trip, there were other finds, such as tree snails and tide pool shells, that extended and enriched our experience. Some shellers don't consider a trip complete without a search for land snails. Marc, accompanied by his wife Suzie, spent a day in the famous El Yunque rain forest, east of San Juan, where he photographed the endemic tree snail *Caracolus caracolla* (Montfort, 1810) in its natural habitat along with the breathtaking natural scenery. In central San Juan, Randy and Karen explored a little tide pool on a heavily populated tourist beach while waiting for Rex to join them for the two-hour mountainous drive southwest to La Parguera. Amazingly there was considerable small shell life, including 2 columbellid species, *Columbella mercatoria* (Linnaeus, 1758) and *Nitidella nitida* (Lamarck, 1822).

Therein Lies a Tail

Carmen brought a group of clean and colorful rooster tail conchs, found by local fishermen, for us to admire. We were able to purchase some of these and I brought three beauties home myself. We were still eager to perform our personal search. We looked for the 'tails' on our off-shore travels, but Carmen herself was the only person to find one, which like the triton, had seen better days.

All in all we were so thrilled with our other finds that rather than a disappointment it served as an enticement to return. I always say, "You never want to find *everything* on a trip," because then you might not want to go back. Beautiful Puerto Rico, with its colorful terrain and diverse shelling spots, is definitely worth a return visit.

References:

Mikkelson, P. and Bieler, R. 2008. Seashells of Southern Florida. Bivalves. Princeton University Press, Princeton, NJ.

Warmke, G. and Abbott, T. 1962. Caribbean seashells. A guide to the marine mollusks of Puerto Rico and other West Indian islands, Bermuda and the lower Florida Keys. Dover Publications, New York.

Redfern, C. 2001. Bahamian seashells. A thousand species from Abaco, Bahamas. Bahamianseashels.com, Inc. Boca Raton, Florida.

A closing view out our front porch with the moon over a mangrove islet. Photo by author.

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2013 North Carolina Shell Show

27-29 September 2013

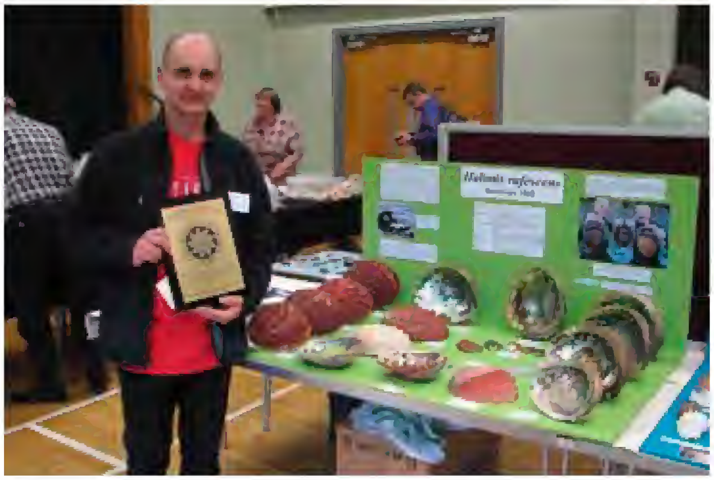
Winners of the COA Award, Linda and Jim Brunner of Panama City, Florida. Their display was titled "The Seashells of Northwest Florida," and was displayed in 16 cases spread over 32 feet.

As in previous years, this year's shell show was held at the Cape Fear Museum in Wilmington, North Carolina (a spot visitors will want to check out during the 2014 COA convention). The show ran from Friday to Sunday, 27 to 29 September 2013. We had lots of visitors and everyone seemed to be quite impressed with the quality and quantity of shells on display. There was a total of 247 feet of shell display. This year's winners of the COA Award were Linda and Jim Brunner of Panama City, Florida (members of COA and the Gulf Coast Shell Club). The display by Linda and Jim was titled "The Seashells of Northwest Florida," and was displayed in 16 cases spread over 32 feet. This same display won the DuPont Trophy at a previous show. Shell show judges were Richard Goldberg and Dr. Art Bogen. The show Chairman was John Timmerman. Other awards included the DuPont Trophy to Vicky Wall for "The Family Personidae," the Hugh Porter Award to Anne Foglemen and Doug White for "The Intriguing Saga of *Hyotissa mcgintyi*," and the Deon & Dottie Weber Environmental Awareness Trophy to Sheila Nugent for "Apple Snails Love Cape Coral." Vicky Wall also won Best Shell of the Show with a *Distorsionella lewisi* (Beu, 1978) and Cathy Young won Best Self-collected Shell with a fossil *Melania sylvaerupis* (Horns, 1899).

The North Carolina Shell Club meets four weekends per year. Meeting locations change each quarter and some are out of state. The meeting location is announced in the club newsletter prior to each meeting. Programs on Friday and Saturday nights feature speakers.

2013 British Shell Collector's Club Shell Show

26 October 2013



Winner of the COA Award, Simon Taylor, with a display titled "*Haliotis rufescens* Swainson, 1822." Photo by Rob Rodolico.

The 2013 British Shell Collector's Club Shell Show was held on 26 October 2013 at Theydon Bois, near London. The show is a popular event and always well attended. This year exhibitors were limited to four feet of exhibit space, ensuring space for a maximum number of participants. The COA Award was won by Simon Taylor with a display titled, "*Haliotis rufescens* Swainson, 1822." Simon's display included numerous large adult specimens, a wild growth series, some farmed specimens, some natural variations, and an adult hybrid specimen. He also had room for a shell that showed the damage from sea otter predation. There was accompanying text detailing the history of the population of the species and its current protection in parts of its range.

The British Shell Collector's Club was founded in 1972 and held its first shell show in 1976. The club encourages good environmental practices when collecting shells and actively fosters scientific study of mollusks as well as encouraging an exchange of information and specimens, collecting for study and display, and related shell activities like: shell art, shell stamps, and shell pins. Club membership is approximately 240. The club publication is the *Pallidula*. www.britishshellclub.org

2014 shell shows & related events (January – August)

Following information is subject to change. Please verify with individual organization.

Jan. 11-12, 2014
SPACE COAST SEASHELL FESTIVAL, Melbourne, FL
The Melbourne Auditorium, 625 E. Hibiscus Blvd.
Alan Gettleman, 2225 Tanglewood Lane, Merritt Is., FL 32953-4287
E-mail: lychee@cfl.rr.com Tel. (321) 454-3239

Jan. 18-19, 2014
49th ANNUAL BROWARD SHELL SHOW, Pompano Beach, FL
Emma Lou Olson Civic Center, 1801 Northeast 6th Street
Alice Pace, 7405 SW 128 Ct., Miami, FL 33183
E-mail: alicepace90@att.net Tel. (305) 301-1296 (Cell)

Feb. 8 - 9, 2014
10th AUSTRALIAN INTERNATIONAL SHELL SHOW, Sydney, Australia
Balgowlah RSL Memorial Club, 30-38 Ethel St., Seaforth, NSW
Steve Dean, 166 Narabeen Pk Pde, Mona Vale, NSW 2103
E-mail: shellshow@sydneyshellclub.net Tel. (941) 362-3302

Feb. 14-16, 2014
51st ANNUAL SARASOTA SHELL SHOW, Palmetto, FL
Bradenton Area Convention Center, 1 Haben Blvd.
Donna Cassin, 3432 Highlands Bridge Rd., Sarasota, FL 34235
E-mail: dcassin941@gmail.com Tel. (941) 362-3302

Feb. 22-23, 2014
ST. PETERSBURG SEA SHELL SHOW, Seminole, FL
Seminole Recreation Center, 9100 113th St. N., Seminole, FL
Bob & Betty Lipe, 348 Corey Avenue, St. Pete Beach, FL 33706
E-mail: blipe@tampabay.rr.com Tel. (727) 391-2197 (Evening)
Exhibit form available at web site: http://www.stpeteshellclub.org

Mar. 6 - 8, 2014
77th SANIBEL SHELL FESTIVAL, Sanibel, FL
Sanibel Community Center, 2173 Periwinkle Way
Anne Joffe, 1163 Kittiwake Circle, Sanibel, FL 33957
E-mail: sanibelchiton@aol.com Tel. (239) 472-3151

Mar. 15-16, 2014
XXV PARIS INTERNATIONAL SHELL SHOW, Paris, France
Espace Charenton, 327 rue de Charenton, 75012 Paris
Perrine Dardart, 8, Rue des Tilleuls, 02190 Pignicourt, France
E-mail: perrine.dardart@gmail.com Tel. 33 (3) 23-22-46-41

Mar. 13-15, 2014
MARCO IS. SHELL CLUB SHOW XXXIV, Marco Is., FL
United Church of Marco Island, 320 North Barfield
Jae Kellogg, 1402 N. Collier Blvd., Slip D-6, Marco Island, FL 34145
E-mail: pjsailkw@gmail.com Tel. (239) 253-8483

Apr. 26, 2014
BRITISH SHELL COLLECTOR'S CLUB CONVENTION, Essex, England
Theydon Bois Community Centre, Essex
John Whicher, Higher Marsh Farm, Henstridge, Somerset BA8 0TQ, UK
Email: john@whicher.plus.com Tel. 44 (196) 336 3715

May 17-18, 2014
XXIV BELGIUM INTERNATIONAL SHELL SHOW, Antwerp, Belgium
"Extra Time" Sports Hall, Louisalei 24, Hoboken
Charles Krijnen, Burgemeester Jansenstraat 10, NL-5037 NC Tilburg, Nederland
E-mail: bvc.shellshow@planet.nl Tel. 31 (13) 463 0607
Website: www.bvc-gloriamaris.be/beurs_e.htm

Jun. 23-27, 2014
AMERICAN MALACOLOGICAL SOCIETY MEETING, Mexico City, Mexico
Participation at the ***Mollusca 2014: TheMeeting of the Americas*** in Mexico City
Web site: www.malacological.org

Jul. 5 - 6, 2014 *(Subject to confirmation)*
TOWNSVILLE SHELL SHOW, Townsville, Queensland, Australia
Orchid Society Hall in Kirwan
Glenda Rowse, 19 Farrell Street, Kirwan 4814, Qld, Australia
Tel. 61 (7) 4773-2817

Jul. 12-13, 2014
KEPPEL BAY SHELL SHOW, Yeppoon, Queensland, Australia
Gus Moore Pavilion at the Yeppoon Show Ground
Jean M. Offord, 277 McDougall St., N. Rockhampton, Qld. 4701, Australia
Tel. 61 (7) 4928-3509

NORTH FLORIDA SUMMER SHELLABRATION co-sponsored by two shell clubs: Back-to-back shell shows with in-between shelling excursions

July 11-13, 2014
JACKSONVILLE SHELL SHOW, Jacksonville, FL
Morocco Shrine Auditorium, 3800 S. St. Johns Bluff Road
Charlotte Thorpe, 1010 N. 24th St., Jacksonville Beach, FL 32250
E-mail: challoyd@bellsouth.net Tel. (904) 246-0874

July 19-20, 2014
GULF COAST SHELL SHOW, Panama City Beach, FL
City of Panama City Beach Senior Center, 423 Lyndell Lane
Jim Brunner, 2511 Parkwood Drive, Panama City, FL 32405
Email: jili@knology.net Tel. (850) 215-2086

Aug. 11-15, 2014
COA ANNUAL CONVENTION, Wilmington, NC
Hilton Wilmington Riverside, 301 North Water Street
Ed Shuller, 409 S. Carroll St., Apex, NC 27539
E-mail: edshuller@mindspring.com Tel. (919) 362-5833
Website: www.conchologistsofamerica.com

Aug. 22-Sept. 1, 2014
OREGON SHELL SHOW, Salem, OR
regon State Fair Grounds – Jackman-Long Bldg.,
2330 17th Street NE
John Mellott, 1310 Crowley Avenue SE, Salem, OR 97302
E-mail: retheresa@comcast.net Tel. (503) 363-5017

Information Source:
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COA Awards Chairman
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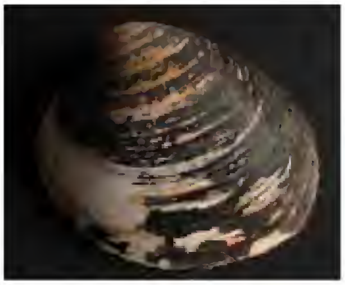
Oldest animal on earth



A. *islandica* from Wikipedia.com, photo by Manfred Heyde.

Some years back (2006) we reported about the oldest living animal on earth, the ocean quahog, *Arctica islandica* (Linnaeus, 1767), with an established record age of 405 years for a specimen found in deep waters off Island. Well, not so fast! It seems further research shows this same shell to log in at an incredible 507 years. Researchers used sclerochronology, the study of astronomical cycles recorded in hard animal tissue, such as bones or shells - they counted shell growth rings like you would tree rings. The researchers confirmed the age of the shell with a form of Carbon-14 dating. In the midst of all this there are naysayers who point to *Scolymastra joubini*, a glass sponge (class Hexactinellida) with an estimated age of 15,000 to 23,000 years. On the other end of the scale is the very common and familiar coquina clam, *Donax variabilis* Say, 1822, that lives for only four or five months.

Size Matters!

I

Moshe Erlendur Okon

The Mollusca are the second largest phylum after the Arthropoda (insects, arachnids, and crustaceans). There are well over 100,000 species (although the exact number is not unanimously agreed upon). Mollusks are found in the seas (from shallow water to very deep); in lakes, rivers, fresh or brackish water ponds; and on land (in a variety of different climates and conditions). While many are only a few millimeters large (affectionately known as 'micros'), others can reach over 1 meter (such as the giant clam *Tridacna gigas*). An extinct ammonite species, *Parapuzosia seppenradensis* was even larger – two meters in diameter!

When examining a shell, we don't often give much attention to its size, unless it is especially large in absolute terms (*e.g.* certain *Melo* species that can exceed 200 mm) or in terms relative to that particular species (*e.g.* a 60 mm *Liguus*). Size, however, is a vital datum, and a species's size range or a specimen's actual size is almost always provided with other data (such as family and genus, the person who named it, geographic range and location, habitat, rarity, collector, etc.).

It is important to bear in mind that certain mollusks continue growing throughout their entire lives, albeit sometimes at a slower pace after they reach maturity, while others reach their final size and then cease growing. In the latter group there are also species that change their morphology once they mature (such as *Cypraea* or *Strombus*) and with them it is easier to discern both dwarfs and giants.

There are several factors that may affect the size of mollusks (individuals or populations), such as: genetics, environment, geography, and also disease or parasitic infestations. In this new series of short articles, different matters of size will be dealt with and in each article very large or small shells will be illustrated, accompanied by some information about the species and the collector who owns the illustrated specimens.

Shells of world record size are a category of their own. A publication dealt with them in the past, and nowadays there is a website devoted to them: www.wrs-shells.com. Whether the issue is a competitive one of 'mine is bigger' or an important source for knowledge, a few millimeters can make a big difference in the price and value of a shell.

Please feel free to contact me at mosherlend@gmail.com with suggestions or if you have any particular shells of unique size in your collections that you wish to share.

Pterymarchia elatica Houart, 2000

In 2000 Roland Houart named this new Muricid from the Gulf of Aqaba (also called the Gulf of Eilat, after Israel's most southern city). Until then, shells belonging to this population were considered to be an orange-colored form of the West Pacific *Pterymarchia* (or *Pterynotus*) *triptera* (Born, 1778).

Apart from color, *P. elatica* differs from *P. triptera* in being more angulate and having a rounded protoconch of 1.5 whorls compared to the conical protoconch of *P. triptera* of 3+ whorls [fig. 1]. This is due to its lecithotrophic development (larvae provided with a source of nutrition to use during their dispersal, usually a yolk sac) as opposed to the planktotrophic development *P. triptera* (larva actively feed while in the water column). The maximal size given for the new species is 58 mm.

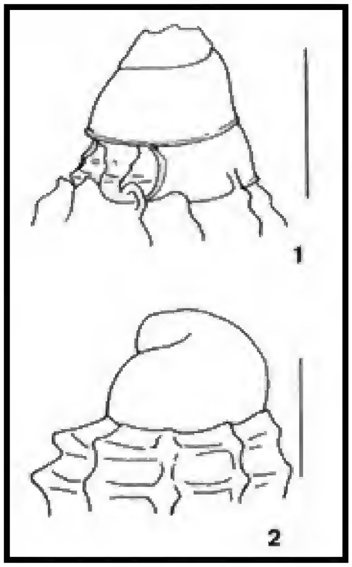


Fig. 1 (from the original description of *P. elatica*): 1. Protoonch of *P. triptera* (Born, 1778) (first whorls broken off – scale bar 0.5 mm); 2. Protoconch of *P. elatica* Houart, 2000 (scale bar 0.5 mm).

The large shell illustrated [1. in fig. 2] is probably a world record size at 66.35 mm. It was collected while SCUBA diving at night at about 20 meters on a sandy bottom, and is from the type locality. A 53.50 mm specimen is also shown. The curious and very dark 45.25 mm specimen is from Eritrea, further south in the Red Sea. These shells are in the collection of Gil Davidovitz, a PhD candidate in marine biology and a shell & antiquities collector.

Reference:

Houart, R. (2000). Description of *Pterymarchia elatica* n.sp. (Gastropoda: Muricidae) from the Gulf of Aqaba. *Novapex* 1 (2000): pp. 21-24.

Moshe Erlendur Okon
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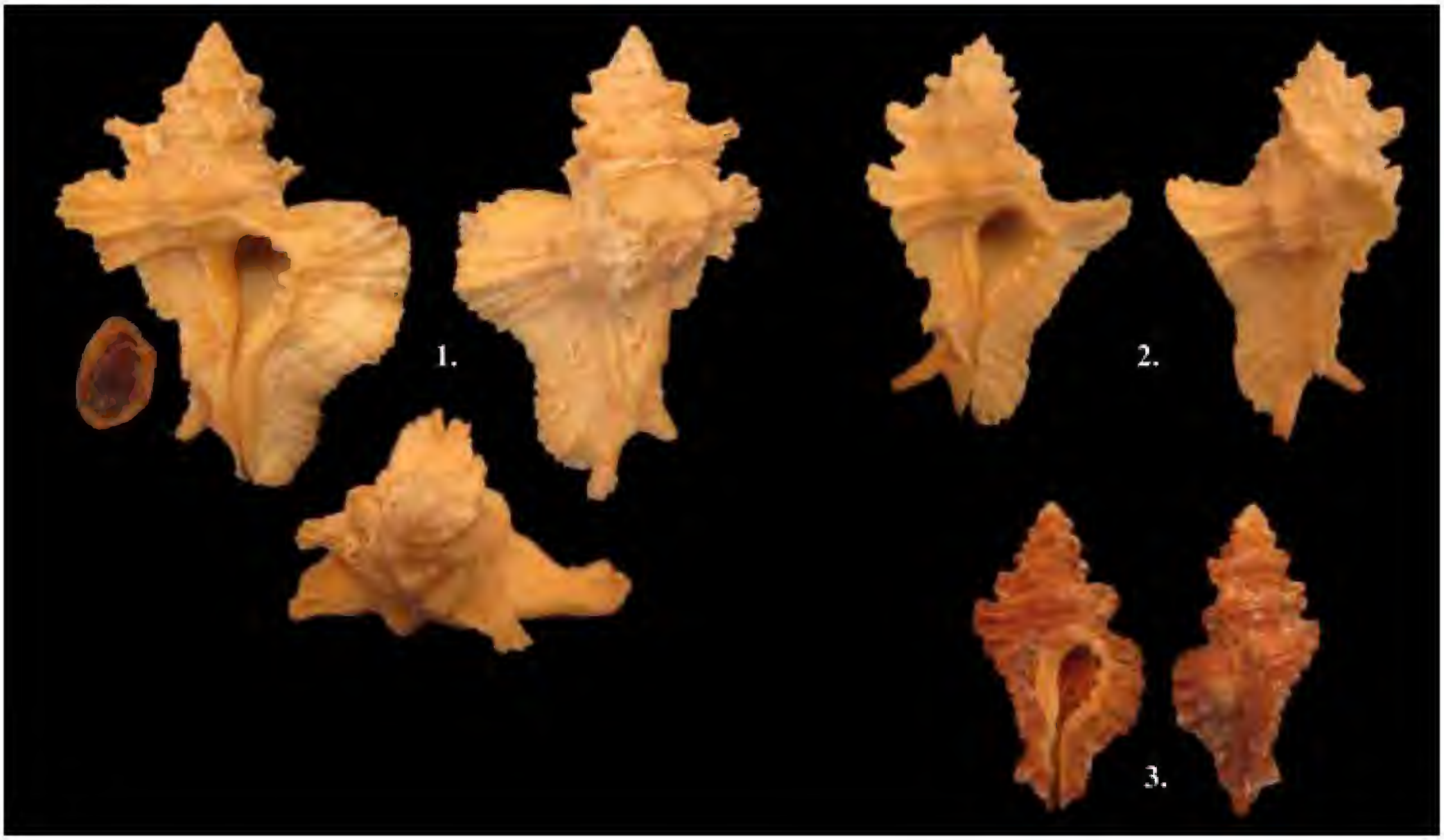


Fig. 2 *Pterymarchia elatica* Houart, 2000. 1. is from the Gulf of Aqaba and probably the world record largest size for this species at 66.35 mm. 2. is from the same locality and is a more typical 53.50 mm. 3. is an unusually dark specimen, 45.25 mm from Eritrea, further south in the Red Sea. All are in the collection of Gil Davidovitz.

2014 COA Convention: Wilmington, N.C.

11-15 August 2013

(9-10 Aug are extra event and excursion days)

From Wilmington's historic downtown district and the Riverwalk winding along the storied Cape Fear River to the nearby island beaches of Carolina, Kure, and Wrightsville, this corner of North Carolina charms visitors and residents alike. In 2014 Wilmington "**whelkomes**" shell enthusiasts from around the world.

Wilmington Riverside Hilton Hotel

At the up-river end of the Riverwalk, the Hilton Wilmington Riverside Hotel will be home to the Conchologists of America annual convention. On Saturday and Sunday, August 9 and 10 we have pre-conference tours. The conference convenes Monday morning and concludes with the Bourse on Thursday and Friday.

Riverview Suites

At a price of $114 per night (parking included) plus tax, the Hilton offers the choice of two rooming options: a standard room in the convention hotel or a 1-bedroom condo with kitchen in the Riverview Suites a short block from the hotel.

The banks of the river embrace antebellum architecture and moss-draped live oaks that line the 230-block National Register Historic District. Within walking distance of the hotel are boutiques, eclectic shops, and over 50 restaurants and pubs. The Castle Street Art & Antique District is nearby.

If time allows you can enjoy theater productions at Thalian Hall, the oldest community theater in the US, celebrating its 225th Anniversary in 2013. Stroll along brick

Historic Downtown

lined streets where you may hear the sounds of live music, eat at one of the waterfront restaurants, or simply sit along the water's edge and enjoy the view. Take a water taxi to the Battleship North Carolina berthed across the river. The Cape Fear Museum, home of the North Carolina Shell Show, is a 20 minute walk from the hotel and houses an excellent exhibit featuring the history of the Lower Cape Fear Region. Don't want to walk? A free trolley circles the downtown area. Or try a pedicab.

Come early and join in our exciting tours:

Saturday

DIVE TRIP - Divers will depart Wrightsville Beach in the morning for a 28 mile offshore trip. They will make two dives; one on a shipwreck and another on a ledge. They may find *Cassis madagascariensis*, *Nodipecten fragosus*, *Cymatium parthenopeum*, and *Babelomurex mansfieldi*.

North Carolina Aquarium

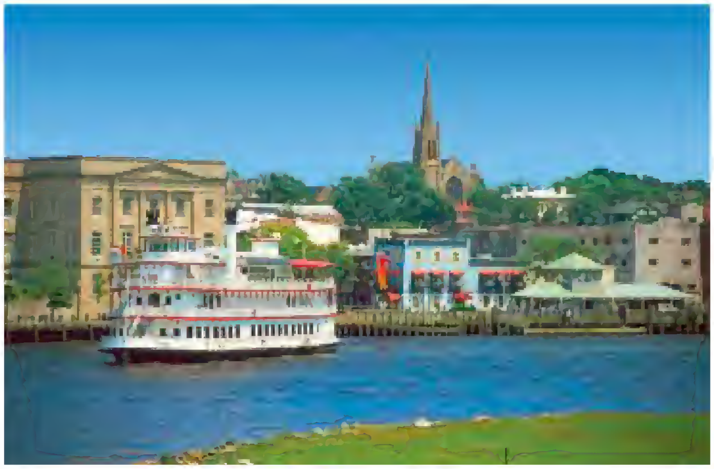
FT. FISHER/NC AQUARIUM - During the Civil War Fort Fisher protected the entrance to the Cape Fear River and Wilmington, a major port serving the Confederacy. It was the last Atlantic port open when captured by Union forces in early 1865. After a talk and tour led by Park Rangers, lunch (not included) will be at a nearby Air Force Recreational area before going on to the NC Aquarium. We will see the exhibits as typical visitors and then have a special "behind the tanks" tour.

Bellamy Mansion

MANSIONS TOUR - At noon begins the tour of 3 homes in the Historic District representing three periods in American architecture and history. The Georgian style Burgwyn-Wright House (1770) was built just prior to the Revolutionary War. During the War it was occupied briefly by Lord Cornwallis and is where he made his fateful decision to march north to Yorktown. Next is the Bellamy Mansion, one of North Carolina's most spectacular examples of antebellum architecture, built on the eve of the Civil War. The mansion and urban slave quarter complex is a museum that focuses on history and the design arts. Last is the Lattimer House, built in 1852 in the Italianate style; it is preserved today as a house museum exemplary of upper-class life in Wilmington during the Victorian period.

ECO RIVER CRUISE - After your busy Saturday of tours or travel, relax with friends aboard the catamaran "Wilmington." The boat will leave from the Hotel dock for an evening eco tour up the Cape Fear River to one of its black water tributaries. Capt. Doug will describe plants and wildlife, some common, some rare, that live here. We may see bobcat, river otter, or black bear, and songbirds such as the prothonotary warbler or the yellow-throated vireo. During the trip we will be served gourmet sandwiches from popular Wilmington micro-brewery, the Front St. Brewery, along with snacks, sides, and desserts. There is an on-board cash bar. The boat will return to Wilmington at sundown, making a circle of the waterfront to give us a fantastic view of the lights on shore before letting us off at the Hotel.

"Wilmington" catamaran- nature cruise



Henrietta III - dinner cruise

Sunday

AIRLIE GARDENS/CAMERON ART MUSEUM - In the morning we head for Airlie Gardens with its breathtaking combination of formal gardens, wildlife, historic structures, walking trails, sculptures, views of Bradley Creek, 10-acres of freshwater lakes, more than 100,000 azaleas, and the grandeur of the 467-year-old Airlie Oak. Then on to the Cameron Art Museum for lunch (not included) in the highly acclaimed CAM Cafe followed by a visit to the galleries featuring exhibits of historical and contemporary significance.

BOB JENKINS WALKING TOUR - For those not interested in gardens and art, the man everyone in Wilmington knows by his straw hat and walking cane will meet us at the hotel at 9am. Bob Jenkins has been leading walking tours of Wilmington for many years and is recognized as the best historical teacher in town. He begins at the Hotel with an overview of Wilmington's past before heading out the door. Be prepared for a unique experience. Bob scurries along sidewalks, darts through fences and cuts across back yards, all the while delivering a running commentary with enthusiasm and charisma.

HENRIETTA III DINNER CRUISE - Wrapping up the weekend events is an elegant dining cruise aboard the "Henrietta III." The boat begins loading at 5pm at its berth a quarter mile along the Riverwalk from the hotel. For those who do not care to walk, transportation will be provided. We have a private deck with a capacity of 120. The delicious "Southern Buffet" includes baked chicken and sliced beef with all the trimmings. Our dining room has a Cash Bar.

Make plans to join old friends and new acquaintances for the weekend activities and to kick-off the week ahead.

HILTON WILMINGTON RIVERSIDE: To make a reservation at the Hilton Wilmington Riverside for days within the convention period; Aug. 8-16, 2014; you may call the local reservation number 910-763-5900 or use the on-line link: http://www.hilton.com/en/hi/groups/personalized/I/ILMNCHF-COA-20140808/index.jhtml?WT.mc_id=POG Group Code: COA Group Name: Conchologists of America

RIVERVIEW SUITES: To make a reservation at the Riverview Suites call Stuart Capps, the Hilton Sales Manager handling our account, and he will assist you. Mr. Capps direct line is 910-343-6172. DO NOT USE ON-LINE RESERVATION OR STANDARD TELEPHONE RESERVATION LINES. To see the Riverview Suites: http://www.riverviewsuiteswilmington.com/

Deadline for Room Reservations at the Convention Rate: July 12, 2014

Contributions to Oral Auction, Silent Auction, raffle and door prizes welcomed.

We are still in need of shells and shell related items. Donations should include pertinent data. Donations are tax deductible and help support COA grants and research. Send donations to:

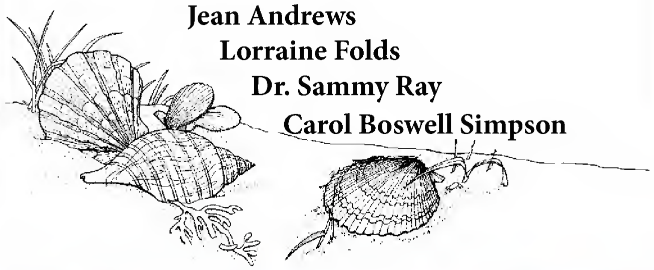
Everett Long
422 Shoreline Dr.
Cedar Point, NC 28584
nlong3@earthlink.net

Thanks to Our Most Recent Donors:

Sue Hobbs -- Sue Hobbs Specimen Shells
Rich Goldberg -- Worldwide Specimen Shells
Houston Conchological Society
Bill Fenzan
John Schreck
Everett Long
Vicky Wall
Dora Zimmerman
Ruth Drye
John Timmerman
Doug Wolfe

In memoriam:

Jean Andrews
Lorraine Folds
Dr. Sammy Ray
Carol Boswell Simpson



Carol Boswell Simpson (left) was the founder of The Palmetto Shell Club in Columbia, South Carolina, and probably most responsible for the club's success, growth, and popularity among the state's shell enthusiasts. She started the shell club in 1987 and within a year listed 55 members. Carol went on a number of shell collecting trips and became quite an expert in the shell family Epitoniidae. She joked about her little white shells, but was first in line at COA events if there was the possibility of a "new ep." She was also a published author with at least one article in a 1998 issue of *American Conchologist*. The photo above was a shell club event at Carol's house on Lake Murray, South Carolina. From left are: Carol Simpson, Fred Mersbach, John Turner, Marie Savage (behind John), Lala Paddock, Harold Brown & Connie Mersbach.

Lorraine Folds lived in Toronto, Ontario, Canada and was a member of COA. She was the Client Services Representative for the National Ambulatory Care System (NACRS) at the Canadian Institute of Health Information (CIHI). Between her job and life in Toronto, largest city in Canada and capital of Ontario, she didn't have much time for shells, but she kept in touch with American Conchologist and several shell friends.

Dr. Sammy Ray, a world-renowned marine biologist and one of the founders of Texas A&M University, Galveston, was deeply involved in oyster natural history and propagation. His research into oyster disease and prevention did much to help turn that portion of the seafood industry around. When not teaching or conducting research, he was the Director of Sea Camp, a hands-on learning adventure for children ages 10-16, sponsored by Texas A&M University that allows young students five days of hands-on research on Galveston Island. Dr. Ray served during WWII and garnered numerous academic honors over the years.

Jean Andrews was a force of nature in the Florida shell club scene. Shell club president, many times the shell club show chairperson, and avid collector, She went on many shell collecting expeditions with Archie Jones in the Everglades and, when not hunting *Liguus*, she collected other shells in Florida, Hawaii, and on trips to Costa Rica. She and her late husband Jim became fascinated with *Liguus* and bought the late Archie Jones collection. After Jim died in 2004, Jean donated her large *Liguus* collection to the Florida Atlantic University. She was also very interested in shell craft and art and had a number of shell motif items she constructed through the years.